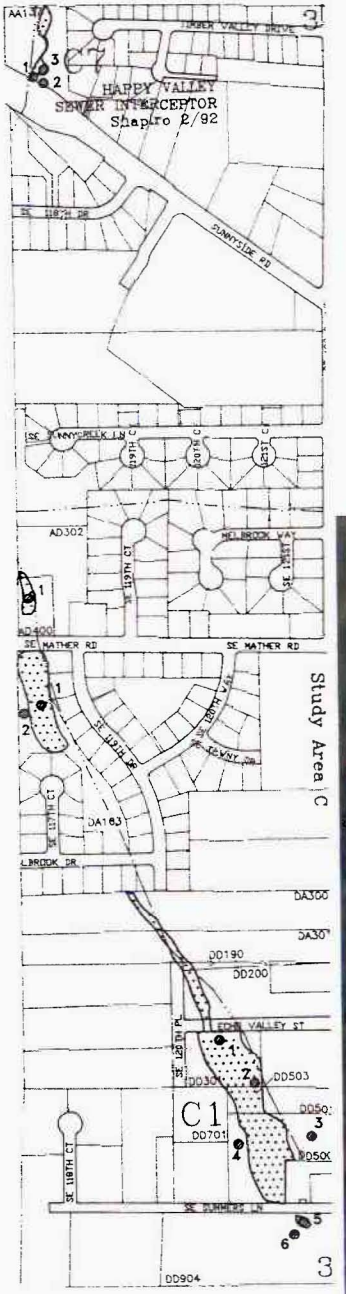
NORTH CLACKAMAS URBAN AREA
WETLAND INVENTORY
AND
GOAL 5 ASSESSMENT







Prepared for

Clackamas County
Department of Planning
and Economic Development
Oregon City, Oregon

Prepared by

SRI/SHAPIRO
Lake Oswego, Oregon

In Association with

Winterowd Planning Services
Portland, Oregon
and
HARZA Northwest, Inc.
Bellevue, Washington

May 1994

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Prepared for:

Clackamas County
Department Of Planning
And Economic Development
902 Abernathy Road
Oregon City, Oregon 97045

Prepared by:

Randall Jones
Fred Small
Dale Graff
Allen Lebovitz
Leslie Anderson
Kristen Riley
Jennifer Switzer
SRI\SHAPIRO
11830 S.W. Kerr Parkway, Suite 375
Lake Oswego, Oregon 97035

In Association with:

Greg Winterowd
Winterowd Planning Services
700 North Hayden Island Drive, Suite 210
Portland, Oregon 97217
Project No. 7925079

APPROVED WETLANDS INVENTORY
Oregon Division of State Lands
Meets WCPJ standards
Date 7-20-94 Approved by JCM

May 18, 1993

NORTH CLACKAMAS URBAN AREA

WETLAND INVENTORY AND GOAL 5 ASSESSMENT

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

A comprehensive inventory of wetlands in the North Clackamas Urban Area (NCUA) was conducted in 1993. A compilation of various useful information related to the inventory was prepared in map format to guide property owner notification, requests for property access, and field data and observation collection efforts. Potential wetland area field maps based on topographic depressions, SCS mapped hydric soils, National Wetland Inventory wetlands, USGS and METRO stream channels, and information from aerial photographs of the area.

Approximately 1,200 property access permission requests were sent to landowners where potential wetland was indicated from secondary information. A total of 567 approvals were given. Wetlands identified in the field where property access permission had been granted constituted on-site investigations. Where property access was not granted, off-site investigations were performed using aerial photography, available mapped data, and observations from the nearest access point to make estimates of wetland-upland boundaries.

Field work began in April 1993 and was completed in November 1993. A total of 61 wetland sites were identified in the inventory for a total of 149.61 acres of potentially jurisdictional wetland within eight geographically discrete study areas (A-H). Of the total, 37 wetlands were delineated under the on-site method and 24 wetland sites were identified under the off-site method.

The location and distribution of wetlands identified in the study generally correlates with stream courses and/or topographically defined drainageways. The greatest number of wetlands were found in the predominantly Industrially zoned Area B (21 total). Several of these were atypical, in that they were not associated with well-defined drainageways. Conversely, all wetland identified in Areas A, C, and D were directly associated with drainages. Most, but not all, of the wetlands in Areas E, F, G, and H were associated with drainages, the exceptions functioning as hydrologically isolated systems.

A total of 66.58 acres of palustrine emergent wetlands were identified in the project area, 33.20 acres of palustrine forested wetlands, 32.18 acres of open water wetlands, and 17.02 acres of palustrine scrub/shrub wetlands.

The Oregon modified wetland functions and values assessment was used to evaluate the functions and values of each wetland. The results of the evaluation were then stratified by each of five ecological function categories, relatively ranking each wetland. Other attributes of the wetlands evaluated were then combined with the relative ranking to make judgments about overall wetland ecological significance or non-significance.

Large undisturbed wetlands tended to score high while smaller wetlands tended to rank lower. Smaller wetlands have less vegetative diversity and are more likely to be disturbed. Lower value wetlands are often located in areas where some development or other disturbance has already occurred. Some of these low value wetlands are isolated or

are associated with drainages with extremely seasonal hydrology. As an example, a few clusters of small wetlands scored relatively high because they function as a single wetland unit, providing wildlife habitat associated with significant perennial streams (such as Mount Scott Creek or Sieben Creek), and/or were within critical slope or resource protection zones.

Wetlands that rated highest overall were located east of I-205 in Areas A, B, C, and D. Of the 24 wetlands that ranked the highest, 16 were found in these three areas, with four of five Area D wetlands scoring in the higher tier. In contrast, 8 high-ranking wetlands were found east of I-205 in three study areas E, F, and G. These wetlands were mainly associated with Kellogg Creek and the Boardman Swamp area.

Lastly, a Goal 5 analysis was conducted. Environmental, economic, social, and energy (ESEE) consequences were evaluated for each wetland area. This included a description of the regulatory context and analysis of the Clackamas County Zoning Ordinance requirements. The Goal 5 effort was focused in four areas: 1) sites that have existing open space protection; 2) sites that are planned for low-density residential development; 3) sites that are planned for high-density residential development; and 4) those sites that are planned for commercial/industrial development. Conflicting uses were identified and analyzed for each area.

INTRODUCTION

1.0 INTRODUCTION

Large scale wetland inventories and assessments have become increasingly common in Oregon conducted by Cities, Counties, the State and Federal governments and by large private interests. These efforts are due to increased public awareness of the importance of wetland functions and values. Other factors include the increased regulatory and financial requirements to address wetlands in development planning, design and permitting, and the recognition of the utility of advance wetland identification and valuation in a broader context related to statewide natural resource protection and conservation policy goals.

In August of 1992, SRI\SHAPIRO was contracted by the Clackamas County Department of Transportation and Development to conduct a comprehensive wetland inventory for the North Clackamas Urban Area (NCUA). This portion of the County has characteristics that highlight the need for early information on the location of wetlands. These characteristics include, but are not limited to, a relatively large planning area (approximately 14,000 acres), densely populated urban areas, developing industrial/commercial zones, large vacant-developable land areas, an emerging County Surface Water Management program, and planned transportation and utility infrastructure improvements.

The inventory work in this project focused on four elements: 1) the identification of potentially jurisdictional wetland areas, using Wetland Conservation Plan Inventory (WCPI) standards of the Oregon Division of State Lands; 2) the assessment of wetland functions and values; 3) updating and improving the County's Goal 5 assessment, including a generic ESEE analysis; and 4) the development of an ARC/INFO Geographic Information System (GIS) mapping coverage and database linkage. The first three elements of the work are included herein. The GIS coverage and database product will be completed in early 1994.

This report constitutes a final draft. The development of a Final Goal 5 Assessment is tied to a subsequent county, agency and public review and approval process.

1.1 PURPOSE OF PROJECT

There are two primary purposes of the inventory and assessment: 1) to give landowners and the County predictability for land development and resource protection; and 2) to update the County's Goal 5 inventory and assessment. The County may, in the future use the data and findings to structure and gain an approved Wetland Conservation Plan (WCP).

1.2 PROJECT AREA

The project area is approximately 14,000 acres of an area east of the Willamette River and north of the Clackamas River (Figure 1). The inventory does not include areas within the incorporated cities of Gladstone, Johnson City, Milwaukie, and Happy Valley, nor the lower Mt. Scott Creek area west of I-205 bounded by Harmony Road, I-205, and Hwy. 224.

The project area was divided into eight geographically discrete study areas, A-H (Figure 2). Some study area boundaries are defined by zoning, others by drainage basin boundaries or by major roadways. Area A is defined as the area south of Sunnyside Road, west of the UGB, north of the Industrial zone boundary, and east of SE 122nd Avenue. Area B is the area east of I-205, north of the Clackamas River, west of the UGB, and includes all areas zoned industrial and/or commercial south of Area A. The zoning boundary roughly conforms to the last (highest) major Clackamas River terrace.

Area C is east of I-205, west of the UGB, north of and adjacent to Area A, and predominantly south of Happy Valley. Area D is south of the City of Portland, east of I-205, west of the UGB, and predominantly north of Happy Valley.

Area E is west of I-205, north of the excluded lower Mount Scott Creek triangle, and east of both the City of Portland and City of Milwaukie incorporated areas. Area F is west of I-205, south of the excluded lower Mount Scott area, north of the City of Gladstone, and east of the drainage basin divide between Kellogg Creek and Willamette River Direct. Area G is also north of the City of Gladstone, west of the drainage basin divide between Kellogg Creek and Willamette River Direct, south of the City of Milwaukie, and east of SE McLaughlin Boulevard. Area H is north of the City of Gladstone, south of the City of Milwaukie, west of SE McLoughlin Boulevard, and east of and adjacent to the Willamette River.

1.3 SCOPE OF WORK

The work plan that guided the process included six major work "Elements", and associated tasks described in SRI (1992). The six elements of the work were:

ELEMENT 1.	PROJECT PROCESS AND COORDINATION
ELEMENT 2.	BASIC MAPPING ELEMENTS
ELEMENT 3.	WETLAND DELINEATION AND VALUATION
ELEMENT 4.	FINAL MAPPING AND DATA-BASE PRODUCTS
ELEMENT 5.	DRAFT ESEE ANALYSIS
ELEMENT 6.	DRAFT AND FINAL REPORTS

1.4 OVERVIEW OF REPORT COMPONENTS

In addition to the report text there is an appendix that contains wetland delineation data forms (Appendix A), functions and values data for inventoried wetland (Appendix B), and data-base components (Appendix C). A set of 40 wetland inventory maps and index is separately bound. The data base and mapping products are the core of the inventory information collected. The following array of information is available in the data base (Appendix C):

- Wetland Code Label
- Wetland Map No.
- Wetland Name
- Goal 5 Significant (Y/N)

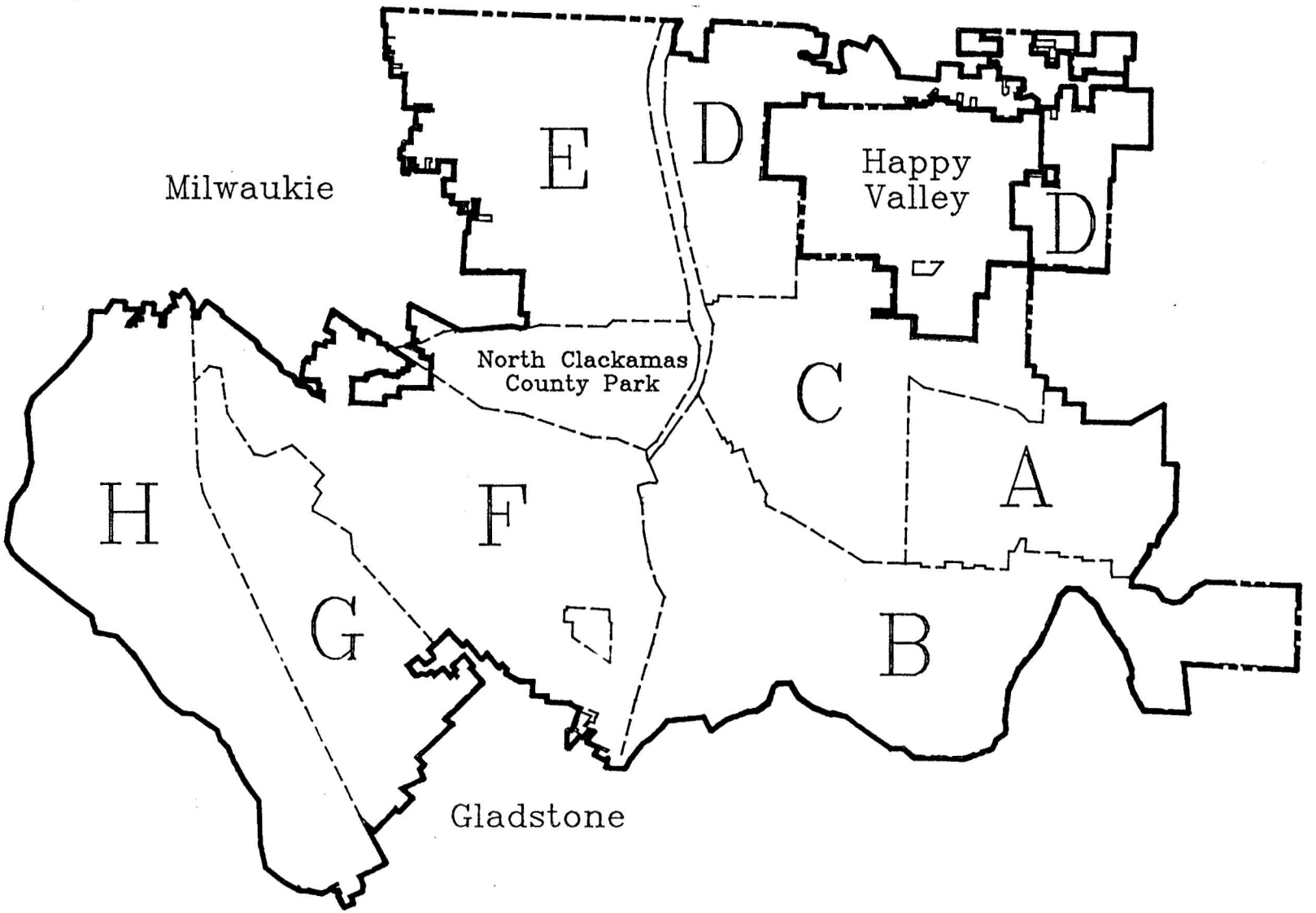


Figure 2. Study areas A through H for the North Clackamas Urban Area Wetland Inventory and Goal 5 Assessment for Clackamas County.

- Tax lot No.(s)
- Township, Range and section
- Location Description or Address
- Plan Designation Code
- Adjoining Plan Designation Code
- Resource Protection (Y/N)
- Source Aerial Photo No., Date, and Scale
- Field-verified (Access Approved) (Y/N)
- Date of Field Investigation
- Drainage Basin Name
- Associated Waterway Name
- Wetland Acreage
- Soil Type
- USFWS NWI Wetland Type
- Dominant Plant Community
- Wetland Functional Value Description
- Overall Functional Value Rating
- Mitigation Opportunities (where possible)
- Comments

The data base which is in FoxPro version 2.0 is linked to the maps via the wetland site code. Map products for this report are individual sections at a scale of 1 inch = 400 feet. These forty maps are provided separately bound. Maps have been organized by township and range. The final map product is ARC/INFO map and data files that can be viewed and plotted at any scale.

SRI/SHAPIRO

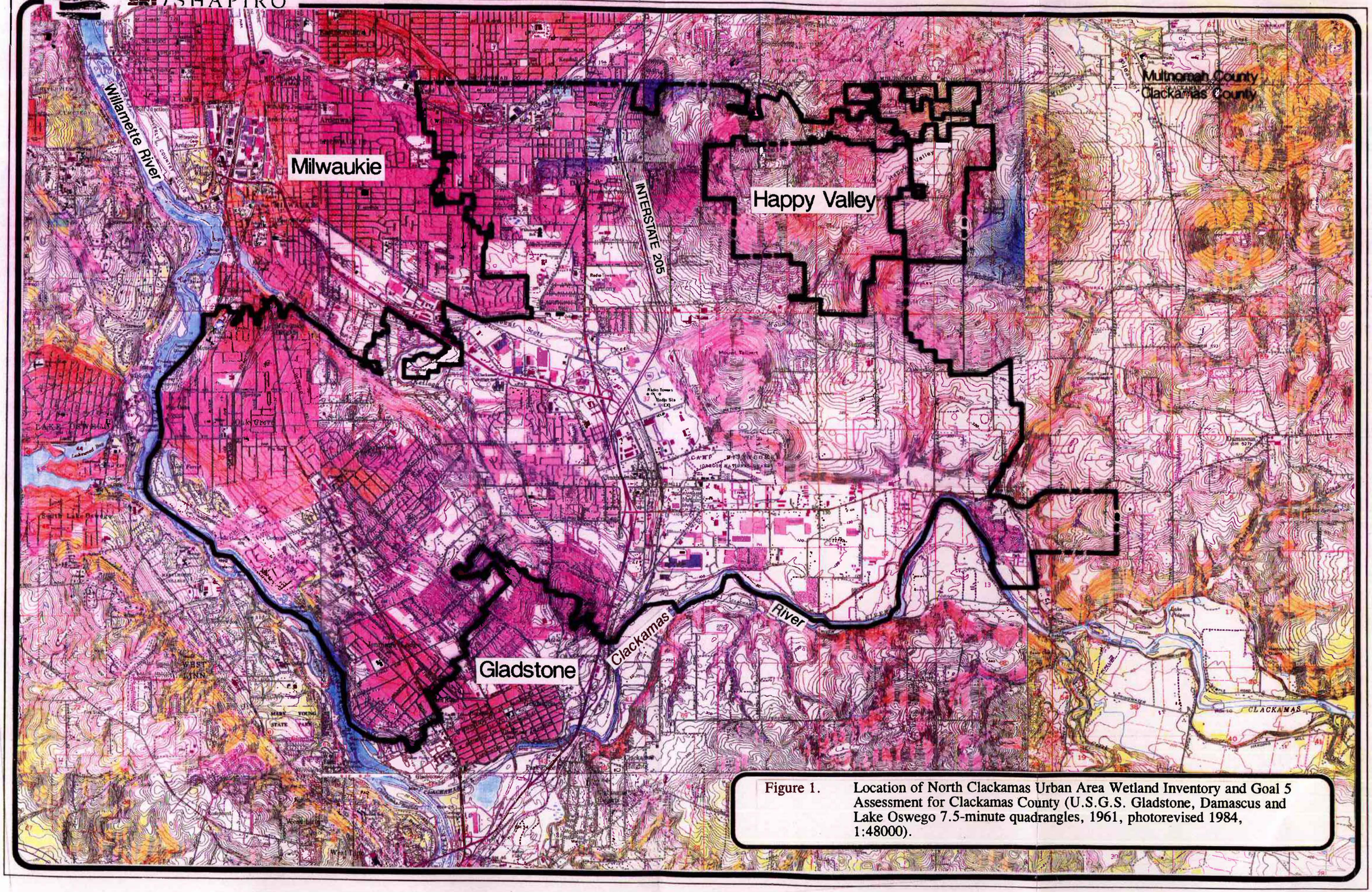


Figure 1. Location of North Clackamas Urban Area Wetland Inventory and Goal 5 Assessment for Clackamas County (U.S.G.S. Gladstone, Damascus and Lake Oswego 7.5-minute quadrangles, 1961, photorevised 1984, 1:48000).

DEFINITIONS

2.0 DEFINITIONS

2.1 WETLAND (1987 MANUAL)

The main source document used in the investigation was the *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (Environmental Laboratory 1987). This manual is now recognized by both the Oregon Division of State Lands and by the U.S. Army Corps of Engineers for the determination and delineation of wetlands within Oregon.

As provided in the Manual, the accepted definition of wetland used by the Corps of Engineers in implementing section 404 of the Clean Water Act and by the Oregon Division of State Lands in administering the Removal/Fill Law is:

> *"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."* (Federal Register 1982).

The 1987 manual provides technical criteria, field indicators, and recommended procedures to be used in determining whether an area is a jurisdictional wetland. The manual requires that three technical criteria in undisturbed situations be met before areas can be considered wetland under federal or state jurisdiction. These criteria are hydric soils, hydrophytic vegetation, and wetland hydrology.

2.2 MANDATORY TECHNICAL CRITERIA

2.2.1 Hydrophytic vegetation

Hydrophytic vegetation consists of those plant species that have adapted to growing in substrates which are periodically deficient in oxygen due to saturated soil conditions. Five basic groups of vegetation are recognized based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status," are as follows: obligate wetland plants (OBL) are estimated to occur almost exclusively in wetlands (>99%); facultative wetland (FACW) plants are estimated to occur 67-99% of the time in wetlands; facultative (FAC) plants occur equally in wetlands and non-wetlands (34-66%); and facultative upland (FACU) plants usually occur in non-wetlands (67-99%). If a species is not assigned to one of the four groups described above it is assumed to be an obligate upland (UPL) plant, which is estimated to occur almost exclusively in non-wetlands (>99%). In addition, plants designated "NI" have not yet received a wetland indicator status, but are probably not obligate upland.

Species lists of commonly encountered plants along with their wetland status have been prepared for all regions of the country by the U.S. Fish and Wildlife Service (USFWS, 1988).

2.2.2 Hydric soils

Hydric soils are those that in an undrained condition are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions near the surface. Such anaerobic (little or no free oxygen) conditions during the growing season affect the production, growth, and survival of plants. Chemically reduced forms of iron, manganese, and sulfur may also be present (primarily in mineral soils), their higher toxicity further affecting plant growth.

2.2.3 Wetland hydrology

The 1987 manual defines wetland hydrology as saturation within a major portion of the root zone (usually above 12 inches) typically between 5 and 12.5% of the growing season, typically March 1-October 31. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5 percent of the growing season depending on the wetland status of the plant community. The growing season for any given site or location is determined from U.S. Soil Conservation Service data and information.

2.3 WETLAND FIELD INDICATORS

2.3.1 Hydrophytic vegetation

A wide variety of plants exhibit at least some degree of tolerance to saturated soil conditions. Adaptations to such conditions may be both structural and physiological in nature, making few of these features readily observable in the field. Structural adaptations may include a shallow root system or adventitious (above ground) roots, while a physiological adaptation includes the ability to transport oxygen to the root zone (as evidenced by oxidized rhizospheres).

For the purposes of wetland delineation, plants generally considered to be more or less tolerant of saturated soil conditions have been included in the USFWS Region 9 plant list. Exclusively upland plants are not listed for the sake of brevity. The rating system is not flawless, and species are occasionally found in areas considered to be atypical habitat. Nevertheless, an assemblage of plants with at least a facultative (FAC) rating generally indicates the presence of wetland conditions (provided hydric soils and wetland hydrology indicators are also present). A higher proportion of dominant species rated as facultative wetland (FACW) and obligate wetland (OBL) will more reliably indicate wetland conditions.

2.3.2 Hydric soils

Readily observable field indicators for hydric soils include gleying and mottling in mineral soils, or an organic upper surface layer (histic epipedon). Occasionally, the presence of a strong sulfur smell (reduced sulfur) in some soils can indicate prolonged anaerobic conditions as well.

Color strength (chroma) is generally the most reliable indicator of a hydric mineral soil, since such soils will develop very low chromas (two or less) under saturated oxygen-free conditions. Gleyed soils are visually distinctive, with a grayish color often tinged with green or blue. Reduced iron and manganese are readily leached from the soil column under prolonged saturation, accounting for the unsaturated color. Gleying may be uniform to the surface in areas that are inundated year-round, while oxidation in the upper soil layers due to a fluctuating high water table may result in blotches of warmer colors called mottles. A mineral soil is considered hydric when the dominant soil matrix chroma is two or less with mottles, or one or less without mottles. Colors are determined in the field with the aid of Munsell soil color keys.

2.3.3 Wetland hydrology

The best field indicators of wetland hydrology include the direct observation of standing surface water, soil saturation at or near the surface, or a high groundwater table. Due to the seasonal nature of prolonged saturation or inundation in most areas, however, these indicators are often not present. Active oxidized root channels in the upper soil profile provide evidence of the physiological adaptation by plants to supply oxygen to their root systems during anaerobic conditions. Their existence is generally a reliable indicator of prolonged saturation in the root zone during the growing season, as long as vegetation is present.

Other indirect indicators include dried-up water channels and depressional areas, dried algal mats, water marks on plants, and water-stained leaves. These may provide adequate evidence of wetland hydrology as long as it can be shown that a short-lived flood event (such as might cause water marks) was not the only hydrologic activity.

2.4 WETLAND "FUNCTIONS" AND WETLAND "VALUES"

Wetlands were once considered of little value to society. They were seen as breeding grounds for pests and disease and as obstacles to economic development. As a consequence, wetlands in all parts of the United States were drained, filled, and converted to serve some other purpose. Soon changes occurred that were eventually linked to wetland loss. Fish and wildlife populations declined or were displaced. Rivers and streams flooded more often. Erosion increased and urban water quality declined. Recognition of these many wetland functions - wildlife habitat, floodwater storage, natural water treatment, and others - has led to a dramatic change of attitude within Oregon and throughout the nation. This increasing awareness is changing the once popular desire to drain and fill wetlands to one of preserving and managing wetlands for their many natural values. As a result, laws and regulations have been enacted to protect wetlands from the wholesale destruction that occurred in the past.

The overall significance of wetland *ecological* functions is now widely recognized, but the *social* value of specific wetland sites is often difficult to define and measure. Many wetland values, such as aesthetic or habitat attributes, can not be quantified or expressed in units familiar to most people. How much is a wetland worth in dollars, recreational-use days, or peace of mind? As troublesome as this question is to answer, it is extremely important that wetland values be quantified because development pressure requires

communities to place priorities on their wetland areas. It is therefore essential that communities have a practical means of evaluating their wetland resources.

Wetland evaluation is the process of determining the value of a wetland based on an assessment of the functions it performs. These functions are assessed by measuring physical characteristics such as diversity of vegetation, water storage capacity, shape, size, and location in the landscape. Not all wetland functions are performed equally by each wetland, and it is possible to rank wetlands within an area relative to one other in terms of the degree to which specific functions are performed.

To a large extent, it is the degree to which functions are performed that determines a wetland's social value. All wetlands have value in that they are a composite of certain soil characteristics, vegetation, and water. However, some wetlands may provide other particular values that are consistent with the local community's needs, such as encouraging tourism, providing urban open space or an amenity for certain developments (e.g., industrial and residential), providing educational opportunities, or they are simply pleasing to look at. The evaluation process allows a community to identify these wetlands and develop a management strategy that is consistent with these planning goals.

METHODS

3.0 METHODS

3.1 SOURCE DOCUMENTS

A wide variety of source material was used in the development of this study. The bulk of the material used is referenced in the following subsections and in section 7.0, "References." Those materials used that would not be noted below include various wetland delineation reports conducted by SRI\SHAPIRO (and our previous, separate corporate entities, respectively, Shapiro and Associates, Inc., Scientific Resources, Inc.) and other consultants. Materials referenced, other than for our past clients, were obtained from the public records at the Division of State Lands permits and regulatory sections. A limited number of wetland delineation reports, not part of the public record, were provided to us from landowners or their representatives. In the latter cases, where regulatory concurrence may not have been made, we reviewed the sites in the field (either on-site or off-site) and the data and observations in the reports in detail before making decisions for inclusion to either the maps or the data base.

3.2 CARTOGRAPHY

3.2.1 METRO Data Base

METRO's Data Resource Center provided 41 section base maps of the study area. These maps included layers for tax lot lines, tax lot numbers, street names, right of ways, and section boundaries. These were transferred from METRO's ArcInfo system to AutoCAD drawing files.

Initially, a project base map was created by inserting or tiling together each section map into a single drawing file (Figure 3). Onto this project area map the study area boundaries, project boundary, and city limits were digitized.

3.2.2 Potential Wetlands: Field Maps

The project area base map was then plotted at a scale of 1"=400' onto 12 24"x36" sheets. Additional layers which were digitized onto the AutoCAD project area map and provided on the larger field map sheets included drainage basin boundaries (Clackamas County), rivers and streams from the U.S.G.S., National Wetlands Inventory wetland boundaries and designations, and hydric soils units from the County Soil Survey.

Clackamas County and the Oak Lodge Sanitary District provided 1"=100', 2-foot contour interval, topographic maps. These maps were used to identify additional drainageways and to highlight depressional areas. This information was manually transferred to the 1"=400" field maps using blue for all drainageways and green for depressional areas.

The county was sent two copies of each of the potential wetland base maps for property owner notification purposes and two were kept for internal use. As property access permission was granted, these maps were color coded. Copies of both maps and access permission letters were sent to SRI/SHAPIRO. As additional permission letters were received they were copied and forwarded for notation on the maps.

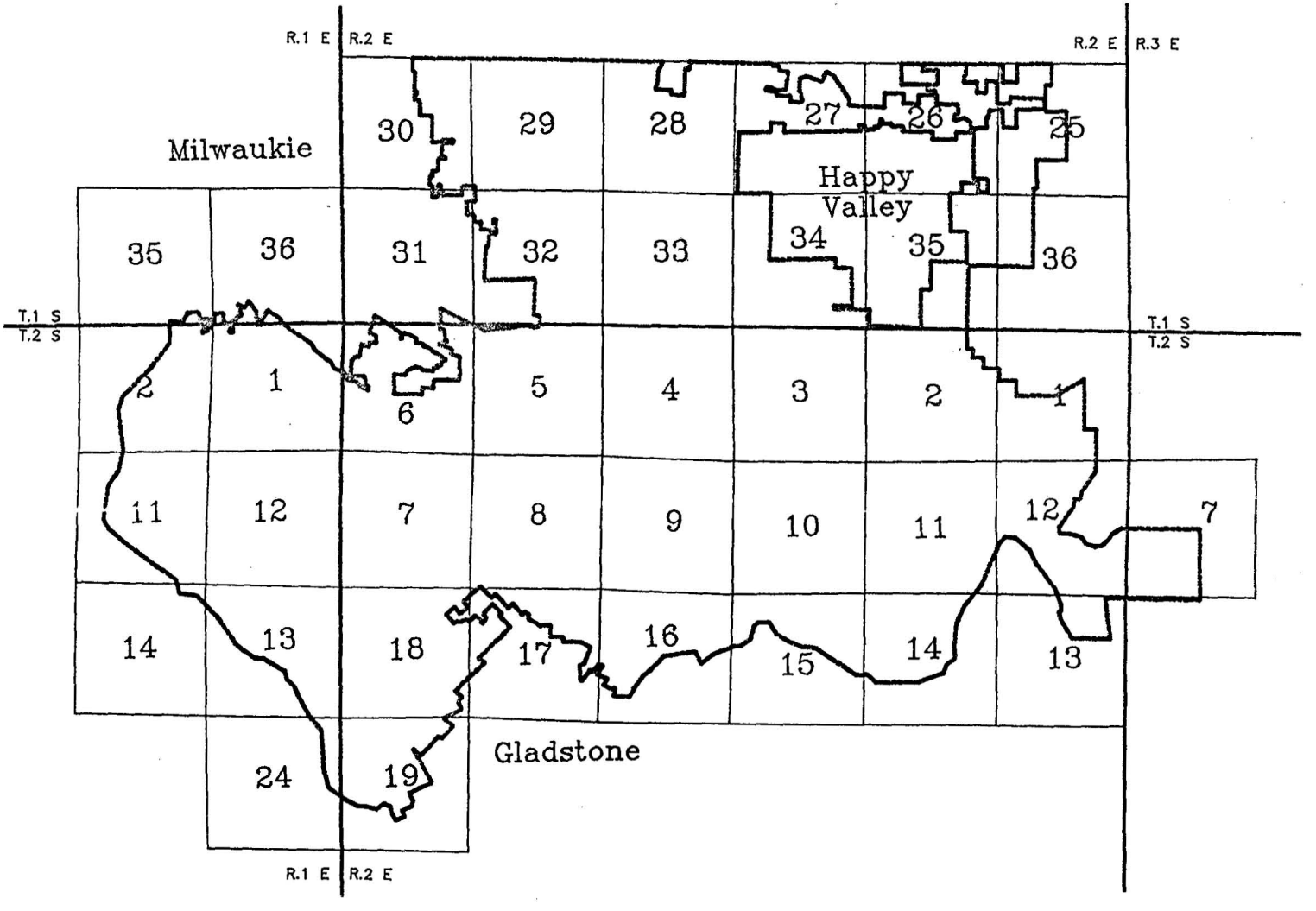


Figure 3. Township, Range and Section for the North Clackamas Urban Area Wetland Inventory and Goal 5 Assessment for Clackamas County.

3.2.3 Aerial Photography

Color aerial photography was ordered for the study area at a scale of 1"=400" to match the scale of the secondary information maps. These aerial photographs were covered with clear acetate (permanently registered) to protect them during field use and as a surface for drafting wetland boundaries and sample sites.

3.2.4 Information Processing

Wetland areas and sample sites were drafted in the field on the aerial photographs. These boundaries were transferred to the secondary information maps which could be calibrated to and digitized onto the AutoCAD maps. In addition, previous wetland delineation reports produced by SRI/SHAPIRO and other firms were digitized. Wetland acreages were calculated within AutoCAD for data analysis.

Periodic drafts of the maps were printed for review by staff, Clackamas County and ODSL as additional data was collected in the field. Changes were made to the AutoCAD maps as comments and corrections were received.

3.3 DUE DILIGENCE: LANDOWNER NOTIFICATION AND PROPERTY ACCESS PERMISSION

Prior to any field work, and on advice from County legal counsel, an extensive process was undertaken to allow landowners with potential wetland sites adequate notification of the intent and goals of the inventory project.

At the heart of the legal advice was property access by a contractor to the County. It was clear that any civil penalties levied against the County (and its contractor, SRI\SHAPIRO) for trespass would in all likelihood be minimal. However, under the Civil Rights Act Amendment any legal fees incurred as a result would necessarily be the responsibility of the County (and its contractor).

As a result, all owners of land where the combined attribute field maps suggested the possibility of wetland received formal requests to access their properties for the purposes of conducting on-site wetland delineations. A total of 1200 property access permission requests were mailed. A total of 567 were returned granting property access, some with conditions that the landowner be present at the time of field work.

In addition, four public workshops were held at which all potentially affected landowners were invited to give comments on the conditions of their property as related to wetland.

3.4 WETLAND IDENTIFICATION AND BOUNDARY DETERMINATIONS

3.4.1 Routine On-site

Where property access permission had been granted, on-site observation and inspection of soils, vegetation, and hydrology were made using the "Routine Onsite" method of the manual. One-foot diameter soil pits were excavated to a depth of 18-inches in selected locations. The soil profiles were examined for hydric soils and wetland hydrology field indicators. In addition, a visual percent-cover estimate of the dominant species of the plant community for a 30-foot radius area was performed using soil pit locations as a center of reference. Data were recorded in the field and subsequently transferred to standard wetland delineation data sheets (included in Appendix A). Data were collected

for representative sampling locations, however, numerous soil pits were excavated between these data points to verify changes in the three parameters.

To the greatest possible extent, wetland areas as small as 0.01 acres were mapped as required in the WCPI standards. No wetland boundaries were staked and flagged (with the exception of A-1 which was surveyed by Clackamas County).

3.4.2 Routine Off-site

Where property access permission had been denied or otherwise not explicitly approved, no on-site sampling could be conducted. Therefore, off-site determinations were made on the basis of aerial photographic inspection, all available mapped attributes (i.e., field maps), and, where available, a reconnaissance from nearby public access vantage points. Observations from vantage points included documentation of dominant vegetative communities (forested, scrub/shrub, or emergent) and water regimes (ponded areas, obviously wet meadows, etc.). Approximate wetland boundaries were drawn on aerial photographs.

Boundaries determined in this way may not be sufficiently accurate for State and Federal jurisdictional determinations because of the absence of actual on-site data. In addition, where views into properties from vantage points were not possible or were otherwise restricted, and where aerial photographic and mapped information was inconclusive, some wetland areas may have been missed and not inventoried.

3.5 WETLAND FUNCTIONS AND VALUES ASSESSMENT

Evaluation of wetlands within the NCUA was accomplished using a two step procedure:

1. Formally evaluate all inventoried wetlands using the Oregon *Modified Wetland Functions and Values Assessment Methodology*. The modified method is based on a system developed in New Hampshire by Ammann and Stone (1991). Questions in sections of the original method have been revised for Oregon by the Oregon Division of State Lands and a State and Federal interagency agency task force. SRI\SHAPIRO contributed to the work of that task force and we used a computer-based version of it that we developed. The output of the method is numeric rating by function, value, and the wetland overall. Individual answer sheets, by wetland, are included in Appendix B. In January 1994, the Oregon Division of State Lands issued the latest version of this evolving evaluation protocal called the *Oregon Freshwater Assessment Methodology* (1993)

2. Apply a "landscape approach" to assessing relative values of wetland areas. Knowledge of each wetland inventoried was used in conjunction with the results of the modified method to apply best professional judgment about relative functioning and values in a regional and local sense.

The first step of the evaluation process was to compare the relative values of wetlands by using the Modified New Hampshire Method. This method was developed by the Audubon Society of New Hampshire Wetlands Protection Project and the United States Department of Agriculture Soil Conservation Service (Ammann and Stone 1991). It was designed to be used as an inventory and planning tool to allow local officials to prioritize those wetland values which are important to the community and to take steps to protect wetlands that provide those values.

The method has 14 functional value categories. For the purposes of this study, some of these categories were dropped to simplify the procedure or especially if they have little relevance to the study area. We collected data for the following 8 "functional value" (FV) categories as the most appropriate to evaluate wetlands in the NCUA:

1. *Ecological Integrity* (FV1). Evaluates the overall health and function of the wetland ecosystem.

2. *Wetland Wildlife Habitat* (FV2). Evaluates the suitability of the wetland as habitat for those animals typically associated with wetlands and wetland edges. No single species is emphasized.

3. *Educational Potential* (FV4). Evaluates the suitability of the wetland as a site for an "outdoor classroom."

4. *Visual/Aesthetic Quality* (FV5). Evaluates the visual and aesthetic quality of the wetland.

5. *Flood Control Potential* (FV7). Evaluates the effectiveness of the wetland in storing floodwaters and reducing downstream flood peaks.

6. *Sediment Trapping* (FV9). Evaluates the potential of the wetland to trap sediment in runoff water from the surrounding upland.

7. *Nutrient Attenuation* (FV10). Evaluates the potential of the wetland to reduce the impacts of excess nutrients in runoff water on downstream lakes and streams.

8. *Urban Quality of Life* (FV12). Evaluates the following:

    a. The effects of an *urban setting* on the wetland.

    b. The *wildlife habitat in an urban setting.*

    c. The *educational opportunities in an urban setting.*

    d. The *visual/aesthetic quality in an urban setting.*

    e. The *water-based recreational opportunities* (in the wetland) *in an urban setting.*

Among the selected functions and values assessed, the method contains 80 questions (see Appendix B). As stated, some of the questions have been added or modified by resource agency personnel to adapt the procedure to western Oregon. The method uses simple mathematical and word models to quantify value as an answer to each question. Generally, each question offers three answers or ratings: 1.0 (High), 0.5 (Moderate), and 0.1 (Low). Some default answers variably included 0.5 or 0.0 as the low rating. Flexibility is allowed to the evaluator, however, to enter a rating that falls between the default answer values.

If a wetland rated high for every question, the maximum average score possible for any single functional value category is 1.0. A score of eight (8.0), then, would be the total maximum average score possible across all categories. In general, the minimum possible average score for any single functional value category for any given wetland is 0.1.

All wetlands evaluated were first ranked in descending order by sorting scores among each of the functional value categories. All wetlands evaluated were also ranked in descending order by sorting the total summed average score across all the respective categories. This collection of ranked wetlands by functional value category and by total summed score served as the framework for the initial determination of Goal 5 significance.

The second filter in the wetland evaluation process was to apply a more qualitative landscape perspective. It is necessary during the delineation process to treat wetlands as individual units with discrete boundaries. But wetlands are functionally connected to adjacent uplands and often hydrologically via stream channels. Animals travel between wetlands and uplands, and water, nutrients, and energy flow into and out of wetlands from adjacent areas. Like all ecological systems, wetlands are part of an interconnected landscape system and their value must therefore be assessed with an eye to their position on the land. For example, a particular wetland may score low for most of the functions listed earlier, but its actual position in the landscape may provide a valuable wildlife travel corridor between two larger natural areas. This landscape criterion introduces some subjectivity into the assessment process, but it ensures that certain values not recognized during Step 1 are taken into account. As a second example, a wetland may be located on the fringe of a stream channel. The channel is incised both upstream and down and yet the wetland boundaries form an enclosed polygon. The wetland nonetheless may provide important ecological functions relative to the stream, such as sediment trapping, floodflow alteration, or nutrient entrapment. The value placed on those functions performed may be enhanced further if there is a collection of discrete fringe wetlands associated with the stream.

In addition to the functions described through the evaluation process, landscape factors we considered important to the ultimate determination of significance:

1. *Size*: Is the wetland relatively large and undisturbed? Larger wetlands tend to harbor more species than smaller areas, and their size makes them more resistant to disturbance. Or is the wetland relatively small and hydrologically isolated?

2. *Stream Adjacency:* Is the wetland located adjacent to a stream? Is the wetland above headwaters or below (less than 5 cubic feet per second of average annual flow or greater than 5 cubic feet per second of average annual flow, respectively)? Perennial streams often harbor resident fish and provide hydrology to other wetlands and water for wildlife on an annual basis.

3. *Zoning*: Is the wetland already protected by County zoning?

4. *Vegetation Assemblage*: Is the wetland a regionally rare wetland type?

5. *Mitigation/Enhancement Opportunity*: Is the wetland already a compensatory mitigation site or is there significant enhancement or mitigation opportunities present at the wetland site?

3.6 METHOD FOR GOAL 5 ESEE CONSEQUENCES ANALYSIS

3.6.1 Introduction

The North Urban Area[1] of Clackamas County has experienced rapid commercial, industrial, and residential development since the Land Conservation and Development Commission approved ("acknowledged") the Clackamas County Comprehensive Plan (CCCP) in 1981. Despite this growth, the County has been reasonably successful in preserving most of its prime natural resource sites through the comprehensive planning process. Conflicts involving the North Urban Area's stream corridors and steeply-sloped forested uplands are resolved through the County's Open Space (Resource Protection) designation.

Clackamas County's comprehensive planning process, however, did not fully address federally-mandated wetland resource management or Statewide Planning Goal 5 issues which have become increasingly prominent during the last decade. The result has been an increased level of uncertainty regarding development involving *uninventoried* wetland sites. Moreover, as growth pressures increase in the 1990s, and the supply of buildable land decreases, conflicts between wetland resources and urban development have increased.

This report focuses only on *wetland* resource sites (WRSs) from the point of view of Statewide Planning Goal 5 - the Natural and Cultural Resources Goal. Accordingly, this report (1) identifies important *wetland* natural resource sites and their "conflicting uses" and (2) evaluates the probable impacts or "consequences" of development and preservation options. The report does not recommend, in the words of the Goal 5 administrative rule, "a program to achieve the goal." Although general policy direction is suggested in site-specific ESEE analyses, detailed plan policies and implementing measures required to complete the Goal 5 process are beyond the scope of this project.

A series of public workshops will be held during the Spring of 1994. After considering public comments, County planning staff will recommend changes to the North Urban Area Comprehensive Plan and to the Clackamas County Zoning and Development Ordinance (ZDO) to resolve conflicts involving wetland resource sites.

Goal 5 Requirements

Statewide Planning Goal 5 is interpreted in OAR 660-16-000 *et seq*, the Goal 5 Administrative Rule. The Goal 5 administrative rule was adopted in 1981, but its *interpretation* has evolved significantly as a result of Land Use Board of Appeals (LUBA) decisions since that time. This report addresses OAR Division 660-16-000 inventory requirements, OAR 660-16-005 conflicting use and ESEE analysis requirements, and OAR 660-16-010 decision criteria. Case law support for the positions taken in this document is found in footnotes at the bottom of each page.

Previous Goal 5 Studies

Clackamas County's Comprehensive Plan was acknowledged by the Land Conservation and Development Commission as complying with *all* applicable Statewide Planning Goals, including Goal 5, in 1981. To be acknowledged, the County went through an exhaustive natural resource

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[1] This area includes unincorporated land within the Metropolitan Urban Growth Boundary, east of the Willamette River and north of the Clackamas River, exclusive of the lower Mt. Scott Creek Basin west of I-205.

inventory and analysis program. The CCCP includes an Open Space designation which has three subcategories:

Resource Protection applied to wooded hillsides, stream corridors and obvious wetlands
Major Hazard applied to areas subject slides and flooding
Public and Community Use applied to park and school property, exclusive of buildings and parking lots

The Open Space designation provides reasonably effective protection for most of the North Urban Area's natural resources, including Mt. Scott and the Sieben Creek, Rock Creek, Deer Creek, Cow Creek and Clackamas River riparian corridors. However, the Open Space designation generally was *not* applied to wetland areas outside of stream corridors.

Purpose of this Report

This report is a significant step in Clackamas County's overall strategy to streamline, clarify and update its land use planning and regulatory programs, consistent with Statewide Planning Goal 5 and federal wetland management requirements.

A principal theme underlying Clackamas County's planning program is that future land use problems can be minimized to the extent that (1) issues are identified and analyzed in advance, and (2) clear and objective development approval standards are adopted to effectively resolve land use conflicts.

The Clackamas County Department of Planning and Economic Development commissioned this report with several specific objectives in mind:

1. *Preliminary Wetlands Inventory.* To accurately describe the wetland resource and functional values, based on agreed upon valuation methods. The size and the precise location of each wetland resource site are carefully noted. The preliminary *Wetland Resource Inventory* ranks each wetland resource site on an absolute basis, and relative to other wetland resource sites in the study area. A product of this contract is a tax-lot specific map with text describing the relative value of each WRS.

The preliminary *Wetland Resource Inventory* will be kept on file in the Clackamas County Department of Planning and Economic Development. This inventory will serve as a reference document. Where development is proposed that will affect a WRS, the Division of State Lands will be notified that a potential wetland exists on the property, whether or not the WRS is protected under local regulations.

2. *Significant Wetland Resource Sites.* Based on a comparative analysis of the functions and values of each WRS, "significant" WRSs will be recommended. "Non-significant" WRSs will *not* continue through the Goal 5 process.

3. To determine the probable impacts of development on "significant" WRSs - and *vice versa*. Goal 5 requires a determination of the environmental, social, economic and energy consequences of developing a WRS. Goal 5 also requires that the impacts of protecting the WRS - especially on affected property owners - also be considered.

4. To provide the Planning Commission and Board of Commissioners the information needed to evaluate the ESEE (economic, social, environmental and energy) consequences of

making policy decisions concerning the appropriate level of protection that should be afforded WRSs in Clackamas County.

5. Where practicable, to format the ESEE consequences analysis in a manner which is consistent with DSL (Oregon Division of State Lands) and US Army Corps of Engineers' wetland management requirements.

The final and primary objective of this report is to comply with Statewide Planning Goal 5 with respect to WRSs. Although Clackamas County has the discretion to determine whether and/or how a WRS should be protected, the County must exercise this discretion consistent with Goal 5 and OAR 660-16-000.[2] This report, therefore, is designed to meet LCDC Goal 5 legal standards and to minimize the County's exposure to legal challenges in the future.

Next Steps

As noted above, this report provides the factual and analytical basis necessary for effective citizen and property owner[3] involvement, and for the Planning Commission and Board of Commissioners decision-making process.[4] The wetland resource functions and values of each inventoried site have been determined by biologists and botanists with expertise in conducting natural resource evaluations. Barring factual information to the contrary, the wetland resources rating should be regarded as substantial evidence necessary to support decisions made by the Board of County Commissioners.

This report provides our professional determination of the economic, social and energy consequences of completely protecting the resource, allowing development to proceed without restriction, or allowing development to proceed on a limited basis. However, it is up to the Planning Commission to recommend, and the Board of Commissioners to decide, what weight should be given to economic, social, environmental and energy factors. At one extreme, the County may decide that the WRS is so important that it should be preserved at any cost. At the other end of the spectrum, the County may decide that the economic and social costs of protecting the resource are so high, that the resource site should be removed from the inventory altogether.

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2 Where wetlands are involved, it is necessary to distinguish Goal 5 requirements from other state and federal requirements. For inventory purposes, Goal 5 applies to *all* wetlands, not just certain kinds of wetlands. *Portland Audubon Society v. Clackamas County*, 12 Or LUBA 269 (1984) and *Spexarth v. City of Warrenton,* 15 Or LUBA 334 (1987). However, Goal 5 requires a *balancing* process after conflicting uses have been identified and ESEE consequences analyzed. Under Goal 5, a local government my decide *not* to protect a wetland, although DSL and the Corps of Engineers have the clear authority to override the local decision.

3 In *DLCD v. Yamhill County*, 17 Or LUBA 1273 (1989), LUBA determined that owner preference is not relevant to the ESEE analysis. While the ESEE consequences needs to consider the economic impacts on affected property owners, the focus is one *conflicting uses*, not on the personal wishes of individual property owners.

4 In *Columbia Steel Castings v. City of Portland*, 314 Or 422 (1992), the Oregon Supreme Court concluded that "the Goal 5 implementing rules require that an ESEE analysis contain enough information on impacts that resource sites and conflicting uses have on each other to permit the responsible jurisdiction to have `reasons to explain why decisions are made for specific [resource] sites.' The reasons need be given only if a particular decision is challenged, but the reasons must *exist* at the time the land use decision is made. The reasons cannot exist if the local government's ESEE study was never sufficiently detailed."

This report tries to avoid these extremes in two ways. First, sites that *SRI/Shapiro* has determined to have relatively low resource value are not recommended for further consideration in the preliminary *Wetland Resources Inventory*. Thus, there is no need for the Planning Commission and Board of Commissioners to waste time in evaluating the consequences of preserving or not preserving the resource, if the resource is relatively insignificant in the first place. If the resource has relatively low value, it should not be further considered.

Second, significant WRSs usually can be partially preserved without major economic, social or energy consequences. For example, through zoning techniques such as residential density transfer, most resource sites can be at least partially protected without severe economic hardship to the landowner or developer. Thus, in most cases, this report avoids placing the Planning Commission or Board of Commissioners in the role of Solomon. Rather than "splitting the baby," we have searched for ways to avoid the difficult position of choosing between absolute development on the one hand, or absolute preservation on the other.

3.6.2 The Preliminary Goal 5 Wetland Resources Inventory

Goal 5 identifies 11 types of resources that must be inventoried and, if found to be significant,[5] evaluated subject to the provisions of OAR 660-16-000. These resources types, and their applicability in the context of this wetlands study, are examined in Section II.A below.

Goal 5 Inventory Requirements

The Goal 5 Administrative Rule (OAR 660-16-000) requires that both the "quantity" and "quality" of WRSs be inventoried. The word "quantity" has been interpreted to mean the relative abundance of the resource. The word "quality" has been interpreted by LUBA to mean the relative value of the resource *vis a vis* other resources within the Clackamas County Planning Area.[6] The rating system will take into account both the relative quality and the quantity of the resource site.

The Goal 5 Administrative Rule (OAR 660-16-000(2)) also requires that the "impact area affected" for each site-specific resource be identified.[7] Clackamas County has already established a 100-foot impact area for all identified wetlands, where special design standards are required to limit the impacts of adjoining conflicting uses.[8]

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[5] In *DLCD v. Yamhill County, supra.*, LUBA found that if there is enough information available concerning the location, quality and quantity of a Goal 5 resource site, then the local government must make a determination as to significance. Determinations of quality and quantity must be supported by substantial evidence in the record of legislative adoption. *Eckis, supra.*

[6] See *League of Women Voters v. Klamath County,* Or LUBA 909 (1988) or *McCoy v. Linn County*, 16 Or LUBA 295 (1987).

[7] In *Eckis, Supra.*, LUBA remanded a land use decision on for failure to identify the "impact area." The impact area is the area where uses may occur that could adversely affect the resource site, or be adversely affected by a conflicting use on the resource site.

[8] In an extreme sense, the "impact area affected" could be considered as the entire drainage basin, since there are almost always some downstream impacts from development. This report considers the "impact area affected" only when <u>significant</u> off-site impacts have been identified that are <u>not</u> controlled at the Regional, State or Federal level. Generally, the impact area would be the area that requires special siting standards for a limited range of conflicting uses and activities.

Land Needed and Desirable for Open Spaces[9]

The Goal 5 definition for potential "open space" is extremely broad, and includes everything from agricultural and forest land to land which "promotes orderly urban development." It is beyond the scope of this analysis to examine whether Clackamas County should protect areas that do not have wetland resource value under the rubric of "open space." However, it is clear that land which has wetland resource value (*i.e.,* resource types 4, 5 and 7, below) also has value as open space. Open space value will be considered as a positive "social value" in each site-specific ESEE analysis.

Open space values associated with agricultural and forest land are protected for lands outside the regional urban growth boundary. There are, by definition, no "agricultural" or "forest" lands (*i.e.,* lands planned and zoned primarily for agricultural or forest use) inside the Clackamas County UGB. Vegetated areas are considered in the preliminary *Wetland Resources Inventory.* The open space value of vegetated areas is considered separately as a positive "social consequence" in each site-specific ESEE consequences analysis.

Open space values associated with golf courses and parks are maintained through the CCCP's Open Space designation, and are not considered in this report. As noted above, it is beyond the scope of this project to further assess open space values, except by recognizing the "social consequences" resulting from lost open space.

Mineral and Aggregate Resources

The North Urban study area includes two inventoried mineral and aggregate resources sites associated with the Clackamas River, south of Hwy. 21. Although aggregate sites are Goal 5 resources, they conflict with wetland resource conservation, and must be considered in the conflicting use analysis.[10]

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[9] Goal 5 defines "open space" as follows:

"Open Space - consists of lands used for agricultural or forest uses, and any land area that would, if preserved and continued in its present use:

(a) Conserve and enhance natural or scenic resources;
(b) Protect air or streams or water supply;
(c) Promote conservation of soils, wetlands, beaches or tidal marshes;
(d) Conserve landscaped areas, such as public and private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;
(e) Enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, natural reservations or sanctuaries, or other open space;
(f) Enhance recreational opportunities;
(g) Preserve historic sites;
(h) Promote orderly urban development.

[10] In *Panner v. Deschutes County*, 14 Or LUBA 1 (1985), LUBA held that wildlife habitat and mining require ESEE analyses as mutually conflicting uses. LUBA found that the ESEE analysis must (a) determine the nature and extent of each resource, (b) assess the property's value for each, and (c) analyze the impacts of a decision not to protect one or the other of the conflicting resource uses. See also *Olsen v. Columbia County*, 8 Or LUBA 152 (1983) and *Holliday Family Ranches v. Grant County*, 10 Or LUBA 199 (1984), related to farm and forest lands identified as having other Goal 5 values that must be considered in the ESEE consequences analysis.

Energy Sources

There are no significant energy sources that are also wetlands within the Northeast Urban Area.

Fish and Wildlife Areas and Habitat

Fish and wildlife areas and habitat associated with wetlands are surveyed in the *Wetland Resources Survey.*

Ecologically and Scientifically Significant Resources

Ecologically and scientifically significant resources associated with wetlands are surveyed in the *Wetland Resources Survey.*

Outstanding Scenic Views and Sites

However, where surveyed WRSs also have localized scenic value, this scenic value is noted as a positive "social consequence."

Water Areas, Wetlands, Watersheds and Groundwater Resources

This study identifies all water areas and wetlands at a sufficient level of detail to meet the inventory requirements of an ORS 196 Wetlands Conservation Plan.

Water quality issues are addressed in part through the protection of wetland values and existing programs designed to preserve stream corridors. Water quality is also assured through compliance with NPDES and well-head protection regulations. Ground water quality protection is similarly addressed.

There are no site-specific, significant Goal 5 watershed or ground water sites in the Northeast Urban Area that warrant special, local protection. It would be useful to describe regulations that affect WRSs, independent of any local regulations that Clackamas County may decide to apply. However, such an analysis is beyond the scope of this project.

Historic Areas, Sites, Structures and Objects

Historic areas, sites, structures and objects are addressed in a separate study and are beyond the scope of this report.

Cultural Areas

Cultural areas are being considered with historic sites in a separate study, and are beyond the scope of this report.

Potential and Approved Oregon Recreational Trails

There are no potential or approved Oregon Recreational Trails in the study area.

Potential and Approved Federal Wild and Scenic Waterways and State Scenic Waterways

There are no potential or approved Federal Wild and Scenic or State Scenic Waterways within the study area.

Conclusion

Goal 5 requires that local governments inventory the quantity, quality and impact areas of 11 types of resources.

The preliminary *Wetland Resources Inventory*, which is the principal part of this study, explicitly considers fish and wildlife habitat, scientifically significant natural areas, water and wetland resources. The open space and scenic value of inventoried resource sites will be considered in the ESEE consequences analysis as "social consequences."

In North Urban Clackamas County, the 100-foot "impact area" for WRSs has already been determined through zoning.

Parks, schools, cemeteries, golf courses, slide and flood hazard areas, stream corridors and wooded hillsides currently are protected by the "Open Space/Resource Protection" overlay in North Urban Clackamas County.

There are no significant energy source or recognized scenic waterways or State trails in the study area.

The North Urban study area includes two inventoried mineral and aggregate resources sites associated with the Clackamas River. However, these mineral and aggregate resource sites are not affected by inventoried wetlands. Any "newly-discovered" mineral and aggregate resource sites must conduct a separate ESEE analysis, consistent with the methods employed in this document.

Historic and Cultural resource sites are considered in another study.

3.6.3 The Goal 5 Wetland Resources Inventory

The *Wetland Resources Inventory* identifies "significant" and "non-significant" WRSs. Only "significant" WRSs will be considered in the ESEE analysis. Depending on the results of the ESEE analysis, individual sites may be afforded resource protection through local plan policies and zoning. Non-significant sites will not be considered in the ESEE analysis, and will not be protected through local plan policies or zoning.

Significant WRSs that are protected fully, or protected on a limited basis, will be recognized on a site-specific map with numbered sites that correspond to a written text for each site, following Planning Commission and Board of Commissioners review of this report. The map and text together will be Clackamas County's adopted Goal 5 wetland resource inventory. Properties affected by WRSs on this inventory will be subject to special review standards.

Thus, the adopted *Wetland Resources Site Map* will have the effect of an overlay zoning district or a plan designation, depending on the type of implementation program the County determines is appropriate. This is why it is important to distinguish between the preliminary *Wetland Resources Inventory*, which includes both significant and non-significant sites, and the adopted *Wetland Resources Site Map*, which defines which significant WRSs will be protected *locally* as a result of the ESEE analysis. It is important to remember that WRSs that do not appear on the *Wetland Resources Site Map* may still be regulated by state and federal law. Clackamas County is obligated under state law to report proposed developments affecting non-significant wetland resource sites to the Oregon Division of State Lands.

3.6.4 Method for Identifying Conflicting Uses

The Goal 5 Administrative Rule requires local governments to go through a logical process for determining the relative importance of surveyed resource sites. This process is required to be comprehensive and legislative in nature rather than case-by-case and quasi-judicial.[11]

Once a resource has been determined to have environmental and/or social significance,[12] land uses and associated activities that impair or diminish resource values must be explicitly identified. This report distinguishes between land uses (*e.g.*, residential uses) and activities associated with a specific land use (*e.g.*, increased impacts that result from people, cars and pets associated with residential development.)

Requirements of OAR 660-16-005

The Goal 5 Administrative Rule (OAR 660-16-005) states that:

> "It is the responsibility of local government to identify conflicts with inventoried Goal 5 resource sites. This is done primarily by examining the uses allowed in broad zoning districts established by the jurisdiction . . . A conflicting use is one which, if allowed, could negatively impact a Goal 5 resource site. Where conflicting uses have been identified, Goal 5 resource sites may impact those uses. These impacts must be considered in analyzing the economic, social, environmental and energy consequences ..."

This report considers both broad land uses that could negatively affect a resource site (*e.g.*, residential subdivisions), as well as secondary activities associated with the broad land use (*e.g.*, loose pets that may harass wildlife and which may be owned by residents of the subdivision.)[13]

Method for Identifying Conflicts

To identify land use conflicts for each of the above categories, the applicable zoning districts are examined to identify permitted and conditionally permitted land uses. (See Conflicting Use Appendices.)

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[11] In *Logan Ramsey v. City of Portland*, LUBA No. 91-215, LUBA held that "establishing a process for a case-by-case application of the Goal 5 planning process in conjunction with individual development requests does not comply with Goal 5 and the Goal 5 rule." Citing *Collins v. LCDC*, 75 Or App 517, 707 P2d 599 (1985), LUBA further held that Goal 5 requires that the identification of conflicting uses and ESEE consequences analyses "be made during the local government planning process, not on a case-by-case basis with individual permit applications."

[12] In *DLCD v. Yamhill County, supra.*, LUBA held that if there is sufficient information on the location, quality and quantity of each resource site, then the local government must make a determination of "significance." Further, if the site is determined to be significant, it must be included in the Goal 5 inventory (or, in the case of this study, "survey"). Once on the Goal 5 inventory, the resource site must undergo a thorough ESEE consequences analysis before a decision is made concerning protection of the site.

[13] The reason for considering secondary land use activities as part of this analysis is to minimize the probability of legal challenges later. To the extent that every conceivable conflict is recognized and considered now, these conflicts will not have to be re-considered in a quasi-judicial review setting, where delays can be costly and unproductive.

However, this report does not rely exclusively on the Clackamas County Zoning and Development Ordinance (ZDP) to determine conflicting land uses. Recent court decisions have made it clear that identification of conflicting uses allowed by zoning are only the first step in determining conflicting land uses.[14]

It is important to consider the specific development plans of property owners, especially when the subject property is committed to a particular land use. At issue in *Columbia Steel Castings* was the fact that the company had made major infrastructure investments that could not be readily moved. There were specific impacts related to a particular industrial site that needed to be factored in to the Goal 5 balancing process. A review of the Clackamas County Zoning Ordinance (ZDO) simply would not provide the level detail necessary to consider the trade-offs that have to be made when an existing development desires to expand on a resource site.

Other sources for identifying probable land use conflicts include:

1. Public facilities master plans for sewer, water and storm drainage.

2. Known or probable development proposals, based on the consultants' knowledge or based on discussions with Clackamas County staff and other knowledgeable sources.

3. The planned "neo-traditional" community adopted for the Sunnyside Road/147th Avenue area.

4. Planned transportation (both vehicular and bicycle) routes, including those that may not be on an adopted inventory.

5. Projects proposed in the North Clackamas County Parks and Recreation District Master Plan.

6. Private and public development plans, where known or where presented through the public involvement process.

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[14] In *Columbia Steel Castings, supra.*, the Supreme Court refutes the City of Portland's argument that conflicting uses are identified primarily through an analysis of uses allowed in applicable zoning districts. (The City cited OAR 66016-005 in support of their contention.) The Court found that a review of the zoning code was merely a *first step* in a *process* - not a end result: "An ESEE analysis describes the *interaction* of the two phenomena, *i.e,* the impact that each has on the other. * * * The Goal 5 implementing rules contemplate that the resource site and conflicting use identification will be an ongoing process, subject to adjustment as new information appears. * * * If all that were necessary to complete the identification of conflicting uses were to scan the zoning maps, as City's argument would appear to suggest, it is difficult to imagine a situation in which there would not be adequate information on the nature of any conflicting use from the outset of a planning process. * * * As noted, the end result of the process is supposed to be a balancing of the impacts that the resource site and the conflicting use have on each other. * * * That balancing process cannot be adequate, under the Goal 5 implementing rules, unless the identification of conflicting uses is specific to each resource site." See also *1000 Friends of Oregon v. LCDC (Tillamook County)*, 303 Or 430, 737 P2d (1987) describing the balancing process.

Once the land use conflicts have been identified, activities and side-effects of these land uses are considered.[15] In the ESEE consequences analysis, conflicts resulting from the primary land use, and secondary land use activities, are considered together in packages.

Under each conflicting use, associated activities which also conflict with WRSs are listed.[16] As noted above, a land use conflicts with a WRS if it is located within the boundaries of the site, of within the "impact area affected."

This report recognizes the presence of existing land uses, and accepts their impacts on WRSs. The focus of this report is: (1) limiting the siting and construction of new or expanding conflicting uses; and (2) identifying and limiting certain conflicting activities associated with existing and potential land uses.

Secondary Activities

Often secondary "activities" that adversely affect a resource site are not generated from a specific development site, and in this sense do not have site-specific land use conflicts. Such conflicting, non-land-use activities include, but are not limited to:

Pet impacts, including domestic animal wastes and harassing of wildlife;

Off-road vehicle impacts, including mountain bikes, motor bikes, etc., which could destroy habitat;

Human impacts resulting from people working or playing, or passing through or near the WRS;

Vandalism and fire impacts;

Off-site surface water runoff impacts;

Increased noise levels except for industrial point sources;

Air quality impacts, which could, in turn, adversely affect habitat value; and

Household and industrial waste spills or dumping.

The activities above typically are not regulated through zoning regulations, although their impacts usually increase as an area is urbanized and population increases. These impacts are not

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15 The reason for this more detailed examination of secondary development impacts is to minimize the County's exposure to legal challenge. For example, human activity has negative affects on wildlife habitat; yet there is little the County can do to limit human activity (*e.g.*, walking, building forts, frog-collecting, climbing trees) in and around stream corridors. By recognizing that such secondary human activities cannot be policed effectively by the County, grounds for Goal 5 challenges to approval of otherwise permitted residential subdivisions will be limited.

16 Under each broad category of conflicting uses, the primary sub-categories of conflicting uses are numbered. Where the term "including" is used in providing examples of conflicting land uses, the intent is illustrative. Thus "including" should be read as "including but not limited to." The term "siting" refers to the location of the conflicting land use's buildings and accessory facilities (including structures, parking facilities and outdoor storage) on a particular site.

site-specific land use impacts, because they are not directly attributable to development of a particular property. Usually, no land use decision is associated directly with these impacts. Moreover, it would be difficult to attach enforceable development approval conditions, which will effectively mitigate the impacts of such activities.

A more complete use of conflicting activities, cross-referenced by zoning district, is found in Appendix F.

Regulation of these secondary activities often occurs through processes which may not be controlled by land use regulations. Such processes include storm drainage management districts, animal control regulations, noise ordinances, NPDES permits, fire regulations, state and federal wetlands regulations, and the like. Since these activities often are not considered "land use" conflicts *per se*, they are beyond the scope of this analysis. However, it would be useful for the County to develop a list of regulations which may mitigate the impacts of secondary activities on WRSs, but which are not found in the Clackamas County Zoning Ordinance.

Categories of Conflicting Land Uses

1. *Residential Uses That Conflict With Wetland Resource Values*

The residential development category is divided into three sub-categories:

1A. Residential land that is already protected by an Open Space/Resource Protection overlay;

1B. Urban Low Density Residential (ULDR) land that does not have an Open Space/Resource Protection overlay; and

1C. Multiple family residential land (MDR, MHDR, and HDR) without an Open Space/Resource Protection overlay.

The residential category represents the most significant potential impact, because most of the resource sites are located in and around residentially-zoned land. This land use category includes land uses permitted in Clackamas County's residential zoning districts.[17]

Clackamas County's residential zones are organized such that most uses permitted in the less intensive single family districts are also permitted in the more intensive multiple family districts.

Category 1A recognizes that Clackamas County has already developed a program to resolve conflicts involving many of its North Urban WRSs. ZDO 1002 includes conservation and conflict resolution criteria and standards for hillsides, trees and wooded areas, rivers and stream corridors, and inventoried wildlife habitat areas and distinctive resource areas, including identified wetland areas (ZDO 1002.06).

This study's primary focus is on *unprotected* WRSs which had not been fully inventoried, and which have not have been regulated under the provisions of CZO 1002.06 (Wildlife Habitats and

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[17] Clackamas County's single family residential districts include the Urban Low Density Residential zones (R-7 through R-30). The County's multiple family districts include the Medium Density Residential (MR-1), Medium High Density Residential (MHDR), and High Density Residential (HDR), and Special High Density Residential (SHD) districts.

Distinctive Resource Areas). However, this study also identifies and separately considers *protected* WRSs that are recognized by the *Resource Protection* overlay.

Conflicting Land Uses

Siting of private and public land uses permitted outright or conditionally in any of Clackamas County's residentially-designated areas on existing lots, including:

@ single family or manufactured homes, duplexes and multiple family development (including condominiums, congregate care facilities and group care facilities);

@ offices and semi-public uses, including churches, schools, child care facilities, lodges and institutional buildings; and

@ parking lots, loading areas, driveways, and accessory structures including signs.

Land divisions, including planned unit developments.

Conflicting Land Use Activities

Construction impacts, *e.g.,* short term impacts (noise, runoff, erosion, disruption of vegetation, etc.) resulting from construction of conflicting uses;

Water quality impacts, *e.g.,* surface water runoff, including runoff from streets and parking lots, erosion, and runoff from fertilized and chemically treated lawns and gardens;

@ Outdoor lighting, which could adversely affect wildlife.

2. Commercial and Industrial Uses That Conflict with Wetland Resource Values

In most cases, commercial and industrial land uses[18] are more intensive than residential land uses, because they usually have more impervious surface, greater building coverage, more vehicular traffic and pollutants.

However, commercial and industrial uses may have fewer secondary affects on WRSs, because there are usually fewer human beings and pets using these sites for recreational purposes. Thus, the key issue in resolving conflicts between commercial-industrial uses and WRSs is to keep parking lots, structures and storage areas from locating within the boundaries, or impact areas, of significant sites.

As with residential zones, Clackamas County's commercial zones are organized such that less intensive commercial uses often are allowed in more intensive industrial zones.

Conflicting Land Uses

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[18] Clackamas County has four commercial zones that apply in the Northwest Urban Area: NC (Neighborhood Commercial); C-2 (Community Commercial); OC (Office Commercial); and C-3 (General Commercial). The ZDO includes five industrial zones: I-3 (General Industrial); I-2 (Light Industrial); CIP (Campus Industrial Park); CI (Campus Industrial); and BP (Business Park).

Siting of residential, semi-public and office uses listed above;

Siting of commercial uses and industrial uses, including:

- industrial uses with associated outdoor storage, parking lots, driveways, accessory structures and signage;

- commercial uses with associated outdoor storage, parking lots, driveways, accessory structures and signage;

- land divisions and planned unit developments.

Conflicting Land Use Activities

Construction impacts, *e.g.,* short term impacts (noise, runoff, erosion, disruption of vegetation, etc.) resulting from construction of conflicting uses;

Water quality impacts, *e.g.,* surface water runoff, including runoff from streets and parking lots, erosion, and runoff from fertilized and chemically treated lawns and gardens;

Outdoor lighting and industrial noise, which could adversely affect wildlife.

Commercial and industrial development have been considered together because (a) they have similar impacts and (b) many of the uses that are allowed in commercial zones are also allowed in industrial zones, although the reverse is less likely.

3. *Public and Semi-Public Development.*

Public and semi-public development is considered under two sub-categories of uses:

3A. Parks and recreational uses, including parks and school grounds; and

3B. Institutional uses, such as school buildings, fire stations, recreational buildings, hospitals, churches and parking lots.

The CCCP includes an Open Space designation that applies to *Resource Protection* areas, *Major Hazard* areas, and to areas reserved for *Public and Community Uses*. An Open Space Management district (ZDO 702) applies to areas that are committed to public and private recreational use (parks, school playgrounds, golf courses, bird sanctuaries, nature trails, cemeteries, etc.).

It is a common misconception that wetland resources sites are protected from development by virtue of their being located within a park or publicly owned recreational area. Although wetland resources values and park uses can co-exist in an urban setting, recreational use of WRSs does have adverse impacts. Consequently, public recreational use of wetland resource areas is considered a conflicting use and evaluated in the ESEE consequences analysis.

The impacts of institutional uses on wetlands are similar to those of commercial or multiple family residential uses. They often have high traffic volumes, large parking lots, landscaped areas, and accommodate many people. Because institutional uses can have major impacts on wetlands, and most wetlands are located in residential zoning districts, they are considered separately in this analysis. Schools and churches are allowed in residential districts through

conditional use procedures. Many institutional uses are permitted, either outright or conditionally, in commercial and industrial zoning districts.

Conflicting Land Uses

Recreational buildings and accessory structures such as restroom facilities and parking lots;

Developed parks, including such facilities as tennis courts, ball diamonds and picnic grounds;

Passive parks, including facilities such as pedestrian and bicycle trails, access roads, viewing stations and parking lots; and

Lawns and garden areas.

Conflicting Land Use Activities

Construction impacts, including short term impacts (noise, runoff, erosion, disruption of vegetation, etc.) resulting from construction of conflicting uses;

Water quality impacts, including surface water runoff, runoff from streets and parking lots, and fertilized and sprayed lawns and gardens; and

Outdoor lighting and noise which could adversely affect wildlife.

Maintenance, including mowing, trimming and deposition of debris.

4. Public Facilities Construction and Maintenance Activities That Conflict With Wetland Resource Values

Two categories of public facility uses conflict with WRSs when they are constructed on the site or within the "impact area affected." These are:

4A. Installation and maintenance of public facilities that are identified on the adopted Public Facilities Plan; and

4B. Installation and maintenance of public facilities that do not appear on the Public Facilities Plan.

Public facilities include streets, sewer and water facilities and lines, utilities (electrical, cable, telephone and gas), airport facilities, transportation facilities, power facilities (substations and transmission), communication towers, and storm drainage facilities. Not included under the public facilities definition are schools, hospitals and similar institutional uses.

Public facilities (sanitary sewer, water, transportation and storm drainage) described in the Public Facilities Plan are necessary to support planned, community-wide housing and employment growth. PFP projects have *already* been through an exhaustive public review and adoption process. They question is not *whether* the projects are needed in a particular area, but *how* they are to be constructed and maintained. The site-specific ESEE analysis will consider the ESEE consequences of *avoiding* (routing the public facility around) significant WRSs.

Public facilities that do not appear in the PFP usually are needed to support the development of individual properties. Such non-PFP projects usually do not have community-wide importance, and have not been through a community planning process. Thus, there is no presumption that the project is needed at a particular location. The site-specific ESEE analysis will consider whether the non-PFP facility must be constructed through a wetland to serve developable property.

Public facilities uses usually are permitted or conditionally permitted by the primary zoning districts. Frequently there are direct conflicts between facility siting needs (*e.g.*, siting of gravity sewer lines in low-lying stream corridors) and WRS protection.

Conflicting Land Uses

Sewage treatment facilities, bedding and lines;

Water treatment and storage facilities, bedding and lines;

Storm sewer detention facilities, bedding and collection lines;

Transportation facilities, including bicycle paths and streets;

Electrical substations and major transmission lines;

Communication towers;

Above and below ground utilities - including telephone, electrical, gas, and cable TV.

Site preparation and bedding.

Conflicting Land Use Activities

Maintenance and reconstruction of public facilities, including vegetation management (mowing, trimming, tree removal and spraying), excavation and installation of new facilities; and

Construction impacts, including short term impacts (noise, runoff, erosion, disruption of vegetation, etc.) resulting from construction of conflicting uses.

5. *Vegetation Removal and Excavation*

Finally, two categories of land use activities often are unrelated to urban development and may cease to occur as a result of urban development. These are:

5A. Native vegetation removal and excavation; and

5B. Commercial forestry and agricultural.

Accessory agricultural uses and commercial farming operations are permitted in Clackamas County's Urban Low Density Residential zoning districts. Commercial forestry operations are a

permitted use in ULDR zoning districts. However, farming and forest practices conflict with wetland resource values.

Clackamas County has several large stands of Douglas Fir and other species which have commercial timber value, and which may be associated with the perimeter of wetland resource areas. The CCCP includes policies to resolve conflicts involving forested areas (CCCP Policy 6.4). The ZDO includes criteria for retaining trees through the development process, although there is no tree cutting ordinance, *per se*.

Perhaps a more ubiquitous and persistent threat to wetland resource values is native vegetation removal (whether through mechanical or chemical means), and excavation in wetland resource areas. Clackamas County currently does not regulate these activities in any zone, except through the development approval process.

Conflicting Land Use and Land Use Activities

Clearing, plowing and planting on WRSs, which removes native vegetation and habitat, increases erosion and decreases water quality; and

Grazing on WRSs, which tramples and removes vegetation, causes erosion and increases pollution from animal waste; and

Application of pesticides and fertilizers, which decrease water quality and kills native vegetation and wildlife.

Tree-cutting and clearing of native vegetation, which destroys habitat, destroys scenic value and increases erosion;

Spraying for disease control, which may destroy or impair native vegetation and habitat, and may sicken or kill wildlife; and

Road construction, construction of staging areas and impacts from removal of timber from a site.

Identification of Sites Without Conflicting Uses to be Preserved Consistent with OAR 660-16-005(1)

In urban areas, every site has conflicting uses.[19] Even passive park areas, which are intended to "preserve" the resource, usually involve some level of development, or allow for public access.[20]

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[19] Where a local government has made a decision to fully protect a resource site, it is impermissible to "limit" conflicting uses. In such situations, conflicting uses must be prohibited. *1000 Friends of Oregon v. LCDC (Hood River County)*, 91 Or App 138, 754 P2d 22 (1988). In urban areas, there are *almost always* conflicting uses. For this reason, it is essential that Clackamas County avoid making a decision to fully protect a resource, except under circumstances where the intent is to prohibit all conflicting uses.

[20] For example, there are some wetland resource sites that are reserved as "Open Space" as a result of approved planned unit developments. These open space areas typically are free of development, but may allow for public access, installation of public facilities or maintenance of vegetation, all of which are minor conflicts with wildlife habitat values. The point is not

For this reason, even sites that are "protected" by an "Open Space / Resource Protection" designation are evaluated (ESEE consequences analysis) in this report.

Conflicting Use Table

A table will be prepared for each resource site that identifies the possible conflicting uses and the reason for the determination that a particular conflicting use will likely affect the subject site.

Conflicting Use Matrix

A conflicting use matrix will also be prepared, identifying the general category of conflicting use that affects each inventoried site. The first row of the matrix has been filled in. The matrix will appear roughly as follows:

3.6.5 Method for Analyzing ESEE (Environmental, Social, Economic and Energy) Consequences

The ESEE consequences analysis serves as the basis for future regulation of development activities affecting Goal 5 WRSs. (See OAR 660-16-010.) The ESEE analysis must explain what the impacts on the resource could be if the conflicting use were allowed (or allowed on a limited basis), and what the impacts on the conflicting use would be if the resource were protected (or protected on a limited basis). This analysis must be site-specific, and should not be generalized for all similar resource sites.[21]

Requirements of OAR 660-16-005(2)

OAR 660-16-005(2) defines an "adequate" Goal 5 ESEE consequences analysis:

" . . . If conflicting uses are identified, the economic, social, environmental and energy consequences of the conflicting use must be determined. Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. . . . A determination of the ESEE consequences of identified conflicting uses is adequate if it enables a jurisdiction to provide reasons to explain why decisions are made for specific sites."

*ESEE **Consequences for Resource Values** of Allowing Conflicting Uses*

Each of the resource sites has one or more conflicting land uses listed. Each of these conflicting land uses has associated activities which also conflict with the wetland resource values on the site. The Goal 5 administrative rule does not clearly define what is meant by the words "environmental," "economic," "social," and "energy" when applied in an ESEE consequences analysis.

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necessarily to restrict such activity, but to identify and account for conflicting uses through this process.

[21] Because most of Clackamas County's wetland resource sites are similarly situated and in comparable zoning districts, conflicting uses are frequently similar, as are the ESEE consequences of allowing conflicting uses. In almost every case, conflicting uses are allowed on a limited basis. Consequently, the ESEE analyses for each site may appear redundant, especially when conflicting land uses are similar. However, it is critical to specify precisely which portion of the generic ESEE analysis is applicable. See *Gonzalez v. Lane County*, LUBA 92-108. See also *Columbia Steel Castings* and *Logan Ramsey, supra.*

Working definitions, which are applied in considering the ESEE consequences of allowing conflicting uses, or allowing conflicting uses on a limited basis, are provided below:

Environmental Consequences of **Allowing Conflicting Uses**

Environmental consequences are those which have an adverse impact on the identified functions and values of the WRS. By definition, the environmental consequences of allowing any conflicting use, even on a limited basis, are negative.

Economic Consequences of **Allowing Conflicting Uses**

Economic consequences are those which adversely affect the property values (either on-site or in the neighborhood) or the density or intensity of development. Economic consequences are usually viewed as adverse with respect to the developer of property. However, economic consequences may also be adverse when conflicting (development) uses are sited on or near a wetland. For example, property values on an adjoining property may be adversely affected when trees are removed or a creek is culverted. The preservation of WRSs may improve neighborhood or site-specific property values, in which case there would be adverse economic consequences associated with allowing the conflicting use.

Social Consequences of **Allowing Conflicting Uses**

Social consequences include diminution of (a) scenic value associated with the preservation of a WRS, (b) urban design or open space values associated with preservation of a WRS, and (c) educational value associated with preservation of a WRS. To the extent that a conflicting use decreases scenic, open space or educational values associated with a specific WRS, then there are adverse social consequences associated with allowing the conflicting use.

Energy Consequences of **Allowing Conflicting Uses**

Energy consequences of allowing conflicting uses are usually not highly significant. However, removal of existing vegetation can destroy windbreaks or block summer sunlight which can increase heating and cooling costs.

*ESEE **Consequences for Conflicting Uses** of Protecting Resource Values*

There are often adverse impacts associated with protecting, or partially protecting, a resource site. Put another way, protecting or partially protecting a resource site may be costly to the landowner, the neighborhood or the County. The Goal 5 administrative rule does not clearly define what is meant by the words "environmental," "economic," "social," and "energy" when applied in an ESEE consequences analysis. Working definitions, when applied in considering the ESEE consequences of protecting, or partially protecting a surveyed resource site, are provided below:

Environmental Consequences of **Limiting the Conflicting Use**

By definition, the environmental consequences of protecting a WRS are positive.[22] There are no adverse environmental impacts associated with protecting WRSs in Clackamas County.

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[22] The exception to this definition may occur when the natural resource is a mineral or aggregate resource, in which case protection of the resource for its mining could conflict with

Economic Consequences of **Limiting the Conflicting Use**

The economic consequences of protecting, or partially protecting, a WRS frequently are adverse. To the extent that the preservation of WRSs decreases (a) neighborhood or site-specific (private) property values, or (b) the probable density or intensity of development, then there are adverse economic consequences associated with preserving the resource site.[23] There may also be adverse economic impacts on property owners or the County for maintenance of wetland resource areas. In the case of public facilities, there may be adverse economic impacts that result from more expensive road or facility construction costs.[24]

Social Consequences of **Limiting the Conflicting Use**

Adverse social consequences of protecting the wetland resource include (a) increased crime potential associated with urban open space, (b) restrictions necessary to preserve wetland resource values may limit the use of open space for more intensive recreational purposes, and (c) decreased availability of needed urbanizable land for housing and employment.

Energy Consequences of **Limiting the Conflicting Use**

Energy consequences of protecting WRSs may be adverse, in situations where (a) streets must be rerouted and increase travel distance, (b) planned public facilities must be rerouted to avoid wetland areas, and pump stations or other energy-consumptive devices are required, or (c) solar access is blocked by retention of wetland vegetation.

Method for Assessing Relative Values for ESEE Consequences

Each of the surveyed WRSs is affected by one or more conflicting land uses and associated conflicting land use activities. Each general category of conflicting land uses and activities (*i.e.*, residential, commercial-industrial, recreational-institutional, public facilities, agriculture-forestry-vegetation removal) that has a reasonable potential impact on the subject site, will be specifically referenced in the site specific ESEE analysis. The nature of the possible conflicting use will be described (*e.g.*, single-family residential subdivision) as well as known or probable site-specific impacts.

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other Goal 5 values. The Northwest Urban Area of Clackamas County has two identified aggregate extraction areas associated with Clackamas River. Conflicts involving gravel extraction must be addressed.

[23] Economic consequences do not include a business decision not to locate on a particular site. This is true for two reasons. First, the Metropolitan Urban Growth Boundary includes a wide range of industrial and commercial sites, so that a decision not to locate on one site usually means a decision to locate on another site within the regional UGB. Secondly, one of the principle purposes of undertaking the Goal 5 ESEE consequences analysis is to provide certainty in the development process by making sure that development constraints are known in advance. Clackamas County should not be criticized from an economic standpoint for carrying out its comprehensive plan and implementing ordinance provisions, when natural resource sites are clearly mapped, and regulations governing such sites are a matter of readily-available public record.

[24] In *Davenport v. City of Tigard*, LUBA Nos. 91-133 and 91-137, LUBA held that an amendment to a Comprehensive Plan transportation map to change a functional classification and designate new arterial and collector streets, requires a Goal 5 ESEE analysis if inventoried natural resources are affected.

Program Options for Conflict Resolution Prescribed in OAR 660-16-010

OAR 660-16-010 offers three basic options for programs to carry out the results of the ESEE analysis: (1) preserve the resource site; (2) allow conflicting uses completely; or (3) allow conflicting uses on a limited basis. Each site specific ESEE analysis will include a recommendation on which of these options to follow. Once a decision is made, however, the site-specific ESEE analysis will need to be expanded to justify each individual decision.

Protect the Resource Site - Conflicting Uses Prohibited

Where WRSs have particularly high regional value, there may be a decision to preserve a resource site as an undisturbed natural area. Such a resource site would be off limits to any conflicting land uses or activity - including passive recreational use. It is doubtful that many of these sites exist in an urban area such as Clackamas County.

Allow Conflicting Uses Completely - Regardless of Impacts on Resource Site

There may be a few instances where a surveyed WRS - which has been determined to have a high environmental value - would be completely sacrificed for a conflicting use. Such a sacrifice is justified where the ESEE consequences of preserving even a portion of the WRS are so severe as to exclude the site from the *Wetland Resource Map.*

Allow Conflicting Uses on Limited Basis - Partially Protect the Resource Site

In most cases, WRSs will be *conserved,* and conflicting uses and activities will be limited by clear and objective standards. Many WRSs in residential areas are already protected from most conflicting uses by the Resource Protection overlay. For the remaining sites that are not protected by the Resource Protection overlay, the conflicting use or activity will be allowed on a limited basis, with specific standards designed to minimize impacts on the specific site. In such cases, the significant wetland resource will be placed on the adopted *Wetland Resource Map,* and afforded Resource Protection overlay probably will be applied to the site.

The Critical Next Step

Once the consequences of allowing the conflicting use and of protecting the resource site are determined, the next step is to determine what the ESEE consequences would be under a program that allows, but limits the conflicting use. The site-specific ESEE analysis must describe the general approach that will be used to conserve the resource site, and justify this approach with reference to the applicable ESEE analysis.

If the program changes as a result of public comment, the reasons for the change such be noted in the site-specific ESEE analysis.

STUDY AREA

STUDY AREA

4.0 STUDY AREA DESCRIPTIONS

4.1 REGIONAL SETTING

4.1.1 Location in Oregon

The project area is located in the northern reaches of the 200 mile long, 40 mile-wide Willamette Valley, a large synclinal depression between the Cascade Mountains and the Coast Range in northwest Oregon (Clackamas County Department of Transportation and Development, 1989; Price, 1987; Wantz, Feris, and Larsen, 1983). This region is approximately 70 miles from the Pacific coast at its nearest point.

4.1.2 Regional Climate

The climate and weather patterns of the northern Willamette Valley region are profoundly influenced by the proximity of the Pacific Ocean and by orographic effects of adjacent mountain ranges. The regional climate is best described as a modified marine west-coast climate type. The valley is located between the Coast Range and the Cascade Mountains, which together act as significant natural barriers to weather fronts. To the west, the Coast Range shields the valley from a significant portion of the humid maritime air masses which come from the Pacific Ocean. To the east, the Cascades effectively trap seasonal maritime wet-weather air masses over the Valley and shields the region from drier and colder continental air masses coming from the eastern interior. These influences provide the valley with mild, wet winters with average temperatures in the mid 30's (F) and warm, dry summers with average temperatures in the low 80's (Clackamas County Department of Transportation and Development, 1989; Wantz, Feris, and Larsen, 1983).

The average yearly precipitation for the region is 45 inches. The greatest amount of precipitation, 86% of the annual total, occurs from October through May. The majority of this precipitation occurs in the form of rain, since snowfall is generally restricted to higher elevations in the Cascades and does not typically accumulate in the project area over the winter. Accumulated snow melt from the headwaters of the Clackamas River provides a significant hydrologic input to the region (Clackamas County Department of Transportation and Development, 1989; Price, 1987).

4.1.3 Regional Geomorphology

The region is characterized by gently sloping uplands and flood plains cut by deeply incised stream valleys and steep valley slopes and escarpments. Regional elevations range between 100 feet to 2,500 feet National Geodetic Vertical Datum (NGVD). The geology of the area is a composite of volcanic formations including basaltic lavas, tuffs, and flow breccias. It is also comprised of fluvial and eolian sediment formations. Numerous geologic units of each formation type have been mapped within the region (Schlicker and Finlayson, 1979).

4.1.4 Regional Hydrology

The larger hydrologic region is comprised of the Lower Willamette and Sandy drainage basins which extend roughly from the St. Helens area in the north to the headwaters of the Clackamas River near Twin Peaks in the south. It also extends west to the Balm Grove area in the Coast Range and east to Mount Hood in the Cascades. It is comprised of numerous smaller subbasins (Clackamas County Department of Transportation and Development, 1989).

Hydrologic features of the region are dominated by the Columbia, Willamette, Clackamas, and Sandy Rivers. There are also numerous smaller rivers, streams, and creeks within the region. The Lower Willamette and Sandy drainage basins and smaller watersheds are intimately linked with these rivers and streams. Headwaters for the major rivers and snow melt from the surrounding mountains provide the most significant hydrologic inputs for the region.

4.1.5 Regional Vegetation

Vegetation communities in the developed western portions of Clackamas County have been altered significantly from those believed to have been present before settlement by whites in the mid-1800's. During the past century essentially all of the survey area has been impacted to some degree through logging and agricultural activities, with urbanization pressures currently the greatest agent of impact. Patches of habitat still exist, however, that have not been radically impacted in recent years. In these remnant areas, plant communities have developed that include associations of species common to other areas of the Willamette Valley and to the lower foothills of the Cascades. Detailed descriptions of native plant communities in western Oregon can be found in Franklin and Dyrness (1973).

Plant communities occurring in the project area include coniferous forest, deciduous forest, mixed coniferous-deciduous forest, upland scrub-shrub, grassland, developed-agricultural, developed-urban, riparian, and wetland. Wetland communities can be further described as palustrine-open water, palustrine-emergent, palustrine-shrub/scrub, and palustrine-forested, following the classification system adopted by the U.S. Fish and Wildlife Service (Cowardin, et al, 1979). Each of these communities is described here, while a more complete listing of species likely to be encountered is found in section 4.2.4.

Coniferous forest

Coniferous forests are found primarily on upland slopes and terraces. Douglas fir generally dominates the overstory, with western hemlock and bigleaf maple being common associates. The understory shrub layer is often sparse except at stand edges where such species as vine maple, Oregon grape, hazelnut, and snowberry may become quite dense. Sword fern is a common groundcover species.

Douglas fir, the dominant seral species, often reestablishes itself on disturbed open sites, such as logged-over land. The climax community present in much older stands (largely absent from the western portions of the county) has a greater percentage of western hemlock, a shade-tolerant species that may ultimately prevail over Douglas fir in the absence of further disturbance.

Deciduous Forest

The overstory of a deciduous forest community is dominated by mature bigleaf maple and red alder. Occasional Douglas fir, black cottonwood, and wild cherry may also be present. The shrub layer tends to be denser than in coniferous stands, with vine maple, Indian plum, red elderberry, hazelnut, oceanspray, Oregon grape, and snowberry as common associates. The herbaceous ground cover is usually dominated by swordfern, with Licorice fern, fringecup, and Siberian miner's lettuce are also frequently present.

Mixed Coniferous-Deciduous Forest

Since periodic disturbance is the rule in the more populated areas of the county, the most common association is a mixed coniferous-deciduous forest. Douglas fir generally codominates the overstory with broadleaved species such as bigleaf maple and red alder. Common shrub species include hazelnut, vine maple, Indian plum, and red elderberry. Introduced species such as Himalayan blackberry and English ivy may come to dominate the shrub understory, however, especially in more recently disturbed areas and along stand edges.

Upland Scrub-Shrub

Upland shrub communities are generally found on disturbed sites that have been cleared, graded, or logged in recent years. Similar communities may be associated with grassland habitat, such as along fencelines at the edge of formerly maintained pastureland. Shrub communities are dominated by saplings of such trees as red alder and black cottonwood, along with such shrubs as oceanspray, hawthorne, Scot's broom, and Himalayan blackberry. The herbaceous layer is generally suppressed by the dense shrub growth, though species associated with adjacent grassland habitat may be present.

Grassland

Open areas (such as abandoned agricultural fields) are commonly dominated by grasses and associated forbs. Shrub thickets often dominate fenced or wooded boundaries. Grasses observed may include tall fescue, orchardgrass, colonial bentgrass, and velvetgrass. Common forbs include Canada and bull thistle, Queen Anne's lace, St. John's wort, white clover, and teasel. Shrubs often include Scot's broom, wild rose, and Himalayan blackberry.

Developed-Agricultural

Areas developed for agricultural purposes are found throughout the survey area, though are most common to the east of the urbanized areas. Periodic cultivation that effectively

controls the nature of the vegetation sets these areas apart from adjacent residential areas. Land uses include cropland, pastureland, nurseries, and Christmas tree farms.

Plant cover in agricultural areas is typically composed of a mixture of introduced and native species, such as cash crops, weedy species, and ornamentals. The greatest cover and most diverse species range occurs in the herbaceous stratum. Except in monocultural grass lawns and fields, the variety of weedy forbs and grasses in these areas is often extensive due to the periodic soil disturbance. Common grasses include tall and red fescue, orchardgrass, quack grass, colonial bentgrass, and barnyard grass. Associated forbs may include bull and Canada thistles, Queen Anne's lace, white clover, creeping buttercup, prickly lettuce, spotted cats-ear, and vetch.

Developed-Urban

Plant communities shaped by human residential and commercial development are found throughout the study area. Most of the land area is not vegetated, instead consisting of buildings, parking lots, roads, and highways. Vegetated areas are typically dominated by introduced species, both weeds and ornamentals. Marginal areas are often dominated by thickets of Himalayan blackberry, while weedy grasses and forbs dominate open areas subject to more frequent disturbance.

Riparian Communities

Riparian forests are generally similar to the upland mixed coniferous-deciduous forests, though species preferring wetter sites are more common. Douglas fir and bigleaf maple may codominate with western red cedar and red alder. In addition, the shrub layer is often denser and composed of species such as salmonberry, Douglas' hawthorne, and red-osier dogwood. Herbaceous species may dominate the understory, with stinging nettle and lady fern being common associates. Riparian communities are often associated with or may overlap wetland plant communities.

Wetland Communities

Wetland areas are generally transitional between upland or riparian areas and truly aquatic sites with permanent open water. In many cases, however, open water is seldom (if ever) present and the wetland occupies a position where the groundwater table simply comes close to the surface for an extended period sometime during the growing season.

Palustrine-forested wetlands in the area are dominated by such species as Oregon ash, red alder, black cottonwood, and willows. Palustrine scrub/shrub wetlands may have a high proportion of saplings of the above species, with the addition of such shrubs as red-osier dogwood, Douglas' spiraea, and four-line honeysuckle. Palustrine- emergent wetlands are dominated by herbaceous species, many of which are graminoids. Common species include common cattail, soft rush, reed canarygrass, creeping buttercup, and slough sedge.

4.2 PROJECT AREA

4.2.1 Project Area Climate

Data obtained from the Oregon City Weather Station Field Office (WSFO) indicates that the project area typically receives about 45 inches of average annual precipitation. Precipitation receipts in 1993, however, have been substantially lower than normal. The WSFO has recorded only 27.46 inches of precipitation so far this year, 12.92 inches lower than the 40.38 inches average yearly normal for this period.

The normal average monthly temperatures for the area range from a low of approximately 40 degrees F to a high of 68 degrees F. The average annual temperature is approximately 54 degrees F. The average growing season period for the area typically extends from March 1 to October 31, a period of 245 days.

4.2.2 Project Area Hydrology

The largest surface water bodies in the NCUA are the Willamette River which forms the western boundary of the area and the Clackamas River which serves, in part (in combination with UGB), as the southern boundary. Kellogg Lake and River Forest Lake are the largest lakes in the area. There are numerous small streams and creeks within the project site.

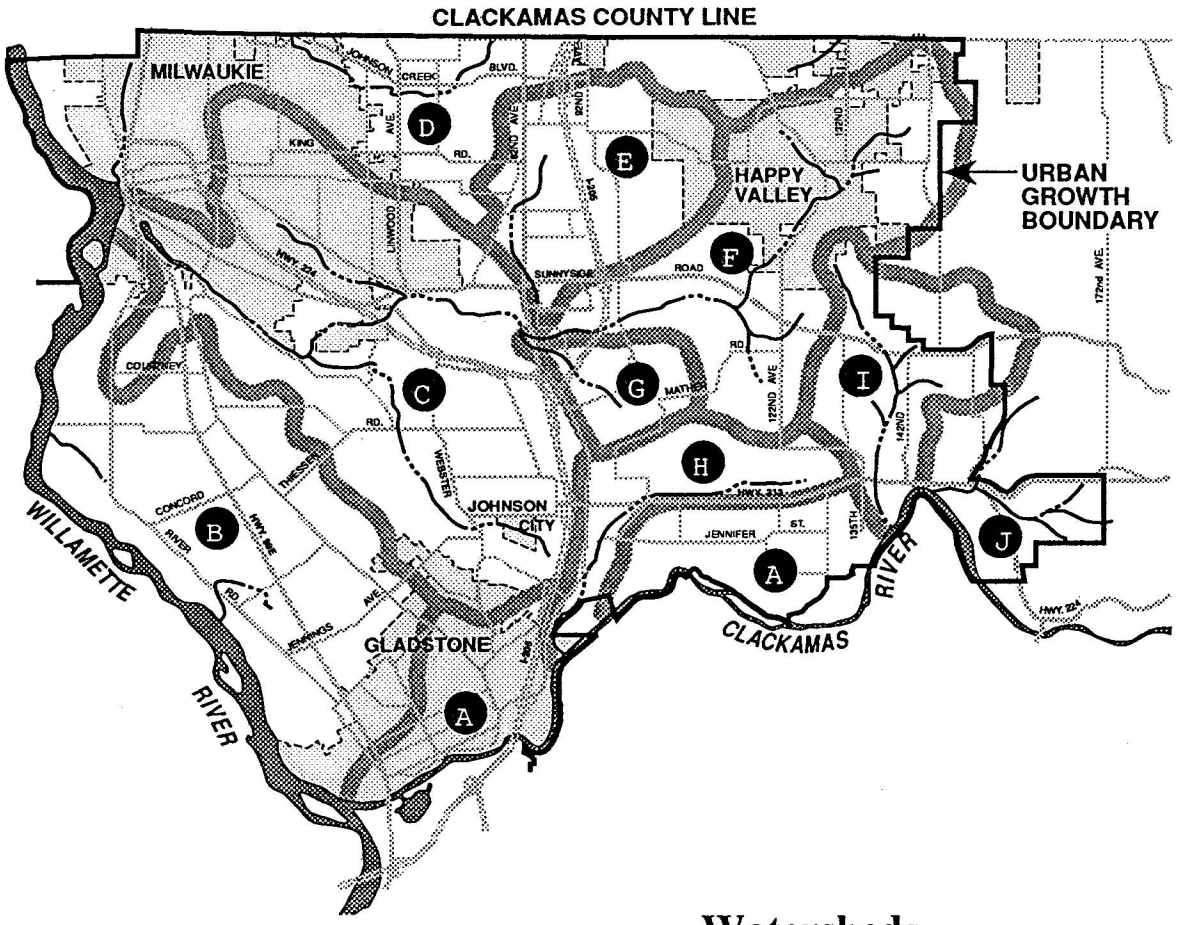
The Urban Area is comprised of 10 sub-basins (Figure 4): Cow Creek, Sieben Creek , Rock Creek, Clackamas River Direct, Phillips Creek, Deer Creek, Mt. Scott Creek, Kellogg Creek, Johnson Creek and Willamette River Direct (Clackamas County Department of Transportation and Development, 1989).

4.2.3 Project Area Soils

The majority of the soils in the study area were formed from mixed alluvium. Alluvium is material which has been deposited or is in transit by rivers and streams. The term "mixed" means that the soil particle sizes are generally unsorted. Stratified glaciolacustrine deposits are the second most common soils found in the study area. These soils with well-sorted particle sizes were deposited in ancient lakes which formed when glacial ice dams broke periodically over thousands of years, releasing enormous volumes of glacial meltwater into the Columbia River Channel. These floods often backed up into the Willamette Valley, forming lakes well over one hundred feet deep in some instances.

Soil Associations

Five major soil associations occur in the study area. These are the Cloquato-Newberg-McBee, Wapato-Cove, Aloha-Woodburn, Willamette-Woodburn-Aloha, and Salem-Clackamas soil associations.



Watersheds

A	Clackamas River Direct
B	Willamette River Direct
C	Kellogg Creek
D	Johnson Creek
E	Phillips Creek
F	Mt. Scott Creek
G	Deer Creek
H	Cow Creek
I	Sieben Creek
J	Rock Creek

Figure 4. Watersheds within the North Clackamas Urban Area Wetland Inventory and Goal 5 Assessment for Clackamas County.

The Cloquato-Newberg-McBee association consists of deep, well drained, somewhat excessively drained, and moderately well drained soils that formed in mixed alluvium. This association occurs on floodplains along the Clackamas river from Estacada to Oregon City and is used primarily for cultivated crops such as corn, beans, berries, and winter wheat. The main limitation of this association is the hazard of flooding. Wapato soils are the major hydric component of this association but they cover a minor area.

The Wapato-Cove association consists of deep, poorly drained soils that formed in alluvium. This association occurs on floodplains along the western portion of Mount Scott Creek and associated minor drainages. This association is used for pasture, hay and vegetables with limitations of flooding hazard and seasonal high water table. This association contains the greatest amount of hydric soils of the five associations in the study area with 50 percent of the area being Wapato soils and 40 percent being Cove soils.

The Aloha-Woodburn association consists of deep, somewhat poorly drained and moderately well drained soils that formed in stratified glaciolacustrine deposits. This association occurs on the broad valley terrace incised by the Willamette River from Oregon City to Milwaukie and is used for suburban development and crops such as corn, beans, winter wheat, strawberries, and nursery stock. The main limitations are a seasonal high water table and restricted permeability. Minor hydric components of this association consist of Cove, Huberly, and Wapato soils.

The Willamette-Woodburn-Aloha association consists of deep, well drained to somewhat poorly drained soils that formed in stratified glaciolacustrine deposits. This association occurs in the broad valley terrace incised by the Willamette River located south of and parallel to the eastern half of Highway 224. The majority of this association in the project area is used for suburban development with a small area being used for winter wheat, filberts and strawberries. Limitations of these soils for homesite development are low soil strength and a seasonal high water table. The seasonal high water table is the major limitation for agricultural production. Where this association occurs off the study area, the Dayton soil series is the minor hydric component.

The Salem-Clackamas association consists of deep, well drained and somewhat poorly drained soils that formed in mixed gravelly alluvium. This association occurs on the stream terrace north of and parallel to the Clackamas River as well as the terrace area between Milwaukie and Interstate 205. The majority of this association is being used for suburban development with minor uses being crops such as winter wheat and vegetables. The seasonal high water table in the Clackamas soils is a limitation for homesite development with seasonal high water table and high content of coarse fragments being limitations for cultivated crops. Cove soils are the hydric soil component of this association but they have very minor distribution.

Soil Series

Thirty-five different soil series occur in the study area. Summaries of their characteristics and sample profiles are as follows:

Aloha silt loam is a deep, somewhat poorly drained soil that formed in stratified lacustrine deposits on broad valley terraces. It is classified as a fine-silty, mixed, mesic Aquic Xerochrept. A typical profile for the Aloha series is a dark-brown (10YR 3/3) silt loam from the surface to a depth of 8 inches, underlain by a dark-brown (10YR 4/3) silt loam.

Amity silt loam is a deep, somewhat poorly drained soil found on broad valley terraces. It formed in stratified glaciolacustrine deposits. It is classified as a fine-silty, mixed, mesic Argiaquic Xeric Argialboll. A typical profile for the Amity series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 8 inches, underlain by a very dark grayish brown (10YR 3/2) silt loam with a more coarse texture.

Borges silty clay loam is a deep, poorly drained soil found in concave areas on rolling uplands and high terraces. It formed in mixed clayey alluvium (water deposited material). It is classified as a fine, mixed, nonacid, mesic Typic Humaquept. A typical profile for the Borges series is a very dark gray (10YR 3/1) silty clay loam from the surface to 7 inches, underlain by a very dark grayish brown (10YR 3/2) silty clay loam from 7 to 12 inches with dark yellowish brown (10YR 4/4) mottles.

Bornstedt silt loam is a deep, moderately well drained soil found on high terraces and rolling uplands that formed in mixed old alluvium. It is classified as a fine-silty, mixed, mesic Typic Haploxerult. A typical profile for the Bornstedt series is a very dark brown (10YR 2/2) silt loam from the surface to a depth of 7 inches underlain by a very dark grayish brown (10YR 3/2) silty clay loam to a depth of 12 inches.

Camas gravelly sandy loam is a deep, excessively drained soil that formed in mixed alluvium. This soil is found on flood plains. It is classified as a sandy-skeletal, mixed mesic Fluventic Haploxeroll. A typical profile for this series is a dark brown (10YR 3/3) gravelly sandy loam from the surface to a depth of 10 inches, underlain by a 7-inch horizon of brown (10YR 4/3) gravelly sandy loam.

Cascade silt loam is a deep, somewhat poorly drained soil found in convex areas of rolling uplands. This soil formed in silty material. It is classified as a fine-silty, mixed, mesic Typic Fragiumbrept. A typical profile for the Cascade series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 3 inches, underlain by an 8-inch horizon of dark brown (10 YR 3/3) silt loam.

Chehalis silt loam is a deep, well drained soil formed from mixed alluvium and found on flood plains. It is classified as a fine-silty, mixed, mesic Cumulic Ultic Haploxeroll. A typical profile for the Chehalis series is a dark brown (10YR 3/3) silt loam from the surface to a depth of 7 inches, underlain by a dark brown (10YR 3/3) silty clay loam to a depth of 24 inches.

Clackamas silt loam and Clackamas gravelly loam are deep, somewhat poorly drained soils found on low terraces which formed in gravelly mixed alluvium. The Clackamas series is classified as a fine-loamy, mixed, mesic Typic Argiaquoll. A typical profile for the Clackamas series is a very dark brown (10YR 2/2) silt loam from the surface to a depth of 7 inches, underlain by a 4-inch horizon of very dark grayish brown (10YR 3/2) silty clay loam.

Cloquato silt loam is a deep, well drained soil found on flood plains. This soil formed in mixed alluvium. The Cloquato series is classified as a coarse-silty, mixed, mesic Cumulic Ultic Haploxeroll. A typical profile for the Cloquato series is a very dark brown (10YR 3/2) silt loam from the surface to a depth of 7 inches, underlain by an 8-inch horizon of very dark grayish brown silt loam.

Cornelius silt loam is a deep, moderately well drained soil found on rolling uplands. It formed in silty material. The Cornelius series is classified as a fine-silty, mixed, mesic Mollic Fragixeralf. A typical profile for the Cornelius series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 4 inches, underlain by a dark brown (10 YR 3/3) silt loam to a depth of 9 inches. Beneath these horizons is a 7-inch horizon of brown (10YR 4/3) silt loam. A hardpan with slow permeability is located at a depth of 30 to 40 inches.

Cove silty clay loam is a deep, poorly drained soil formed in clayey alluvium found on flood plains. The Cove series is classified as a fine, montmorillonitic, mesic Vertic Haplaquoll. A typical profile for the Cove series is a black (10YR 2/1) silty clay loam from the surface to a depth of 7 inches, underlain by an 11-inch horizon of black (10YR 2/1) silty clay. The permeability of this dense soil is very slow.

Delena silt loam is a deep, poorly drained soil found on high terraces and rolling uplands. It formed in silty alluvium. The Delena series is classified as a fine-silty, mixed, mesic Humic Fragiaquept. A typical profile for the Delena series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 12 inches. This horizon is underlain by a 6-inch dark grayish brown (10YR 4/2) silty clay loam horizon.

Helvetia silt loam is deep, moderately well drained, and found on high terraces. It formed in old mixed alluvium. It is classified as a fine, mixed, mesic Ultic Argixeroll. A typical profile for the Helvetia series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 7 inches, underlain by very dark grayish brown silt loam with coarser texture to a depth of 14 inches. Beneath this horizon is a 7-inch dark brown (10YR 3/3) silty clay loam horizon.

Huberly silt loam is a deep, poorly drained soil found in swales of valley terraces. It formed in stratified glaciolacustrine deposits. The Huberly series is classified as a fine-silty, mixed, mesic Typic Fragiaquept. A typical profile for the Huberly series is a very dark-gray (10YR 3/1) silt loam from the surface to a depth of 8 inches which is underlain by a 7-inch grayish-brown (10YR 5/2) silt loam horizon. At a depth of 20 to 30 inches is a hardpan which severely restricts the percolation of surface water and causes seasonal perched water tables.

Ponded Humaquepts are deep, poorly drained soils located on flood plains and old lake bottoms. They formed in lacustrine material over peat, are seasonally ponded, and have a humic (organic) surface horizon.

The Latourell series consists of deep, well drained soils located on terraces. It formed in stratified glaciolacustrine deposits. It is classified as a fine-loamy, mixed, mesic Ultic Haploxeralf. A typical profile for the Latourell series is a dark brown (10YR 3/3) loam from the surface to a depth of 6 inches, underlain by a 9-inch dark brown (10YR 3/3) loam horizon with coarser structure.

McBee silty clay loam is a deep, moderately well drained soil formed in mixed alluvium, and found on flood plains. It is classified as a fine-silty, mixed, mesic Cumulic Ultic Haploxeroll. A typical profile for the McBee series is a very dark brown (10YR 2/2) silty clay loam from the surface to a depth of 7 inches, underlain by a very dark brown (10YR 2/2) silty clay loam with coarser texture to a depth of 15 inches.

Multnomah silt loam is a deep, well drained soil found on terraces which formed in gravelly mixed alluvium. It is classified as a fine-loamy, over sandy or sandy skeletal, mixed, mesic Dystric Xerochrept. A typical profile for the Multnomah series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 8 inches, underlain by a dark brown (10YR 4/3) silt loam to a depth of 12 inches.

Newberg loam and Newberg fine sandy loam are deep, somewhat excessively drained soils on flood plains. These soils formed in mixed alluvium. The Newberg series is classified as a coarse-loamy, mixed, mesic, Fluventic Haploxeroll. A typical profile for the Newberg series is a very dark grayish brown (10YR 3/2) fine sandy loam from the surface to a depth of 6 inches, over an 8-inch very dark grayish brown (10YR 3/2) fine sandy loam horizon with coarser structure.

Map unit 69 which refers to "Pits" describes open excavations from which the soil and sometimes some of the underlying material such as hard rock or gravel have been removed. These are sometimes filled with water and are found both in flood plain areas as well as uplands.

Powell silt loam is a moderately well drained soil which is slowly permeable and found in rolling terrain that formed in old alluvial silt. It is classified as a coarse-silty, mixed, mesic Typic Fragiochrept. A typical profile for the Powell series is a dark brown (10YR 3/3) silt loam from 0 to 7 inches, underlain to a depth of 12 inches by a dark brown (10YR 4/3) silt loam with a more coarse structure. This soil series contains a fragipan (seemingly cemented layer of silt or fine sand) at depth of from 23 to 36 inches.

Quatama series consists of deep, moderately well drained soils found on terraces which formed in stratified glaciolacustrine deposits. It is classified as a fine-loamy, mixed, mesic Aquultic Haploxeralf. A typical profile for the Quatama series is a dark brown (10YR 3/3) loam from the surface to a depth of 8 inches underlain by a dark yellowish brown (10YR 3/4) loam to a depth of 18 inches.

"Riverwash" (map unit 73) describes narrow, irregular strips along major streams and rivers where cobbles, stones, gravel and sand have been deposited during high water episodes.

Salem silt loam and Salem gravelly silt loam are deep, well drained soils found on stream terraces. These soils formed in alluvium. The Salem series is classified as a fine-loamy over sandy or sandy-skeletal, mixed, mesic Pachic Ultic Argixeroll. A typical profile for the Salem series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 8 inches underlain by a dark brown (10YR 3/3) gravelly silty clay loam to a depth of 14 inches.

Saum silt loam is a well drained soil found on rolling uplands that formed in mixed silty material and colluvium (material deposited at the base of steep slopes) derived from basalt. It is classified as a fine, mixed, mesic Typic Xerumbrept. A typical profile for the Saum series is a dark brown (7.5YR 3/2) silt loam from the surface to a depth of 8 inches, underlain by a 7-inch dark brown (7.5 YR 3/3) silty clay loam horizon. Depth to bedrock is generally from 40 to 60 inches.

Wapato silty clay loam is a deep, poorly drained soil formed in mixed alluvium, and found on flood plains. The Wapato series is classified as a fine-silty, mixed, mesic Fluvaquentic Haplaquoll. A typical profile for the Wapato series is a very dark brown (10YR 2/2) silty clay loam from 0 to 8 inches, underlain by a very dark grayish brown (10YR 3/2) silty clay loam to a depth of 18 inches. Permeability of this dense soil is moderately slow.

Willamette silt loam, and Willamette silt loam, gravelly substratum, are deep, well drained soils found on broad valley terraces which formed in glaciolacustrine deposits. The Willamette series is classified as a fine-silty, mixed, mesic Pachic Ultic Argixeroll. A typical profile for the Willamette series is a very dark grayish brown (10YR 3/2) silt loam from the surface to a depth of 6 inches, underlain by a very dark grayish brown silt loam with coarser structure to a depth of 14 inches.

Woodburn silt loam is a deep, well drained soil found on broad valley terraces. It formed in glaciolacustrine deposits. It is classified as a fine-silty, mixed, mesic Aqualtic Argixeroll. A typical profile for the Woodburn series consists of a very dark brown (10YR 2/2) silt loam from the surface to a depth of 7 inches, underlain by a dark brown (10YR 3/3) silt loam to a depth of 16 inches.

"Xerochrepts" and "Haploxerolls" (map unit 92) are relatively young inceptisols and mollisols which have not developed to a degree that they could be classified to any greater precision. These are found on terrace escarpments.

"Xerochrepts - rock outcrop complexes" (map unit 93) is comprised of approximately 60 percent Xerochrepts and 30 percent rock outcrops. These are well drained and found on high terraces and rolling uplands. The remaining 10 percent is made up of a combination of Witzel, Nekia, and Saum soils.

Problem Soils

Many of the inventoried wetlands are located in areas mapped as having non-hydric soils. These soils include the Cascade silt loam, Aloha silt loam, Salem silt loam, and Woodburn silt loam. According to Mr. Russ Langridge, Assistant State Soil Scientist (pers. com., 1993), the 1980 Memorandum of Understanding between the USDA CC, the Bureau of Land Management (BLM), and the Oregon State Experiment Station that outlined the level of detail for the Clackamas County Soil Survey specified that the minimum soil map unit size for the floodplains, terraces, and foothills would be 5 acres. Since soil units smaller than 5 acres are not mapped separately, the description of each soil mapping unit as found in the Soil Survey includes an indication of what percentage of that mapping unit is comprised of inclusions of other soils, including hydric soils.

4.2.4 Project Area Vegetation

Patterns/Communities

Plant communities encountered within the project area include all of those described in Section 4.1.5, since the areas are contiguous for the most part. A regional perspective necessarily brings in a higher proportion of the less developed outlying areas, giving greater emphasis to coniferous forest and rural farmland. The project area, however, tends to encompass lands subject to greater pressure from commercial and residential development. Consequently, communities associated with frequent disturbance, such as developed-urban and developed-agriculture, are becoming increasingly common. Riparian and wetland areas are often less desirable for such development, however, due in part to poor accessibility and flood hazards. Though often degraded, wetland/riparian communities may still include the best-preserved assemblages of native species in their respective areas.

Indicator Species

Diverse groupings of species are found in the transitional conditions typical of wetland habitats in Clackamas County. Gray areas are common in flat to gradually sloping terrain where the species composition may not reflect true wetland boundaries. In such areas a community with FACU species may extend into the wetland area, just as FACW species may be present in upland areas. Conversely, those areas with stronger topographic gradients may change abruptly from an obligate and/or facultative wetland (OBL-FACW) community to one dominated by upland species. Each site has a unique association of species, sometimes highly diverse and without clear dominants, at other times dominated by a single species in a monocultural stand. Below is a non-comprehensive listing of indicator species often encountered in the wetland and associated upland habitats of the survey area.

Wetland Indicators. Common trees found in wetland and riparian areas include: red alder (*Alnus rubra*)(FAC), Oregon ash (*Fraxinus latifolia*)(FACW), black cottonwood (*Populus trichocarpa*)(FAC), western red cedar (*Thuja plicata*)(FAC), and willows (*Salix* spp.)(FAC to FACW).

Dominant shrubs found in wetlands and fringe areas include: red-osier dogwood (*Cornus stolonifera*)(FACW), Douglas hawthorne (*Crataegus douglasii*)(FAC), four-line honeysuckle (*Lonicera involucrata*)(FAC), Pacific ninebark (*Physocarpus capitatus*)(FAC+), salmonberry (*Rubus spectabilis*)(FAC), and Douglas spirea (*Spirea douglasii*)(FACW).

Common herbaceous species found in wetlands and transitional areas include: redtop (*Agrostis alba*)(FACW), colonial bentgrass (*Agrostis tenuis*)(FAC), meadow foxtail (*Alopecurus pratensis*) (FACW), Dewey's sedge (*Carex deweyana*)(FAC+), slough sedge (*Carex obnupta*)(OBL), hairy willow-herb (*Epilobium watsonii*)(FACW-), large-leaf avens (*Geum macrophyllum*) (FACW+), tall manna grass (*Glyceria elata*)(FACW+), common velvet grass (*Holcus lanatus*)(FAC), soft rush (*Juncus effusus*)(FACW+), slender rush (*Juncus tenuis*)(FAC), bird's foot trefoil (*Lotus corniculatus*)(FAC), American skunk cabbage (*Lysichitum americanum*)(OBL), water parsley (*Oenanthe sarmentosa*)(OBL), reed canarygrass (*Phalaris arundinacea*)(FACW), creeping buttercup (*Ranunculus repens*)(FACW), curly dock (*Rumex crispus*)(FACW), small-fruited bulrush (*Scirpus microcarpus*)(OBL), cattail (*Typha latifolia*(OBL)), stinging nettle (*Urtica dioica*)(FAC+), and American speedwell (*Veronica americana*)(OBL).

Upland Indicators. Trees commonly found in upland areas include: bigleaf maple (*Acer macrophyllum*)(FACU), sweet cherry (*Prunus avium*)(UPL), Douglas fir (*Pseudotsuga menziesii*)(UPL), and Oregon white oak (*Quercus garryana*)(UPL). In addition, red alder is often found in transitional to upland sites.

Dominant shrubs generally found in upland areas include: vine maple (*Acer circinatum*)(FACU+), Saskatoon serviceberry (*Amelanchier alnifolia*)(UPL), Oregon grape (*Berberis nervosa*), western hazelnut (*Corylus cornuta*)(NI), Scot's broom (*Cytisus scoparius*)(UPL), salal (*Gaultheria shallon*)(UPL), ocean spray (*Holodiscus discolor*)(UPL), Indian plum (*Oemleria cerasiformis*)(UPL), rose (*Rosa* spp.), red elderberry (*Sambucus racemosa*)(FACU), and snowberry (*Symphoricarpus albus*)(FACU).

Herbaceous species most likely found in upland areas include: wheatgrasses (*Agropyron* spp.)(UPL), sweet vernal grass (*Anthoxanthum odoratum*)(FACU), Canada thistle (*Cirsium arvense*)(FACU+), bull thistle (*Cirsium vulgare*)(FACU), orchard grass (*Dactylis glomerata*)(FACU), Queen Anne's lace (*Daucus carota*)(UPL), fireweed (*Epilobium angustifolium*)(FACU+), tall fescue (*Festuca arundinacea*)(FACU-), catchweed bedstraw (*Galium aparine*)(FACU), Pacific waterleaf (*Hydrophyllum tenuipes*)(UPL), St. John's-wort (*Hypericum perfoliatum*)(UPL), western swordfern (*Polystichum munitum*)(UPL), bracken fern (*Pteridium aquilinum)*(FACU), common tansy (*Tanecetum vulgare*)(UPL), common dandelion (*Taraxacum officinale*)(UPL), fringecup (*Tellima grandiflora*)(UPL), red clover (Trifolium pratense)(FACU), white clover (*Trifolium repens*)(FACU+), and common vetch (*Vicia sativa*)(UPL).

CONCLUSIONS

5.0 DISCUSSION AND CONCLUSIONS

5.1 U.S. FISH & WILDLIFE SERVICE NATIONAL WETLAND INVENTORY AREAS

The U.S. Fish and Wildlife Service, as part of the National Wetland Inventory (NWI) program, has mapped wetland throughout the study area (Figure 5). Although the NWI maps are generated primarily on the basis of interpretation of relatively small-scale color infrared aerial photographs (e.g., scale of 1:58,000) with limited "ground truthing" conducted to confirm the interpretations, they are valuable indicators of probable wetland areas.

In the NWI nomenclature, wetlands are classified according to their ecological characteristics. Within the Clackamas County study area, the Clackamas River is classified as a riverine, upper perennial, open water, intermittently exposed/permanent, wetland system (R3OWZ). The lower portion of Kellogg Creek (below the confluence of Mt. Scott Creek) has the same classification. In general, these streams are within a well-defined channel and associated wetland may be given a separate classification.

Most of the wetlands within the study area are classified as palustrine. "The Palustrine System was developed to group the vegetated wetlands traditionally called by such names as marsh, swamp, bog, fen, and prairie, which are found throughout the United States. It also includes the small, shallow, permanent or intermittent water bodies often called ponds" (Cowardin, 1979).

Within the Palustrine System classification, most of the Clackamas County area wetlands are 1) forested, broad-leaved deciduous, saturated-semipermanent/exposed (PFO1Y); 2) emergent, persistent, saturated-semipermanent/exposed (PEM1Y) wetland; or, 3) scrub-shrub, saturated-semipermanent/exposed (PSS1Y) wetland. Scrub-shrub refers to dominant woody vegetation that is less than 20 feet tall; forested refers to dominant woody vegetation that is over 20 feet tall. Typically, emergent wetlands are dominated by perennial plants, such as sedges, rushes, grasses, and herbs.

The named creeks, such as Cow, Deer, Kellogg, Mount Scott, Phillips, Rock, and Sieben, are generally classified as forested wetlands (PFO1Y) due to the dominant tree overstory along their banks. In addition, some of the wetland in the far northeast corner of the study area (above Happy Valley) is scrub-shrub wetland (PSS--).

The open wetlands found in the area are usually classified as emergent (PEM1Y) wetland. Ponds within these areas may be classified as open water, unknown bottom, and they may be artificially flooded, diked or impounded, and/or excavated.

Most regions, including this study area, have wetlands that are not shown on an NWI map. These may be non-stream wetlands, such as backyard ponds, seeps and drainage swales, or seasonally flooded pockets that exist because of the local topography. Their classification varies according to the hydrology and vegetation.

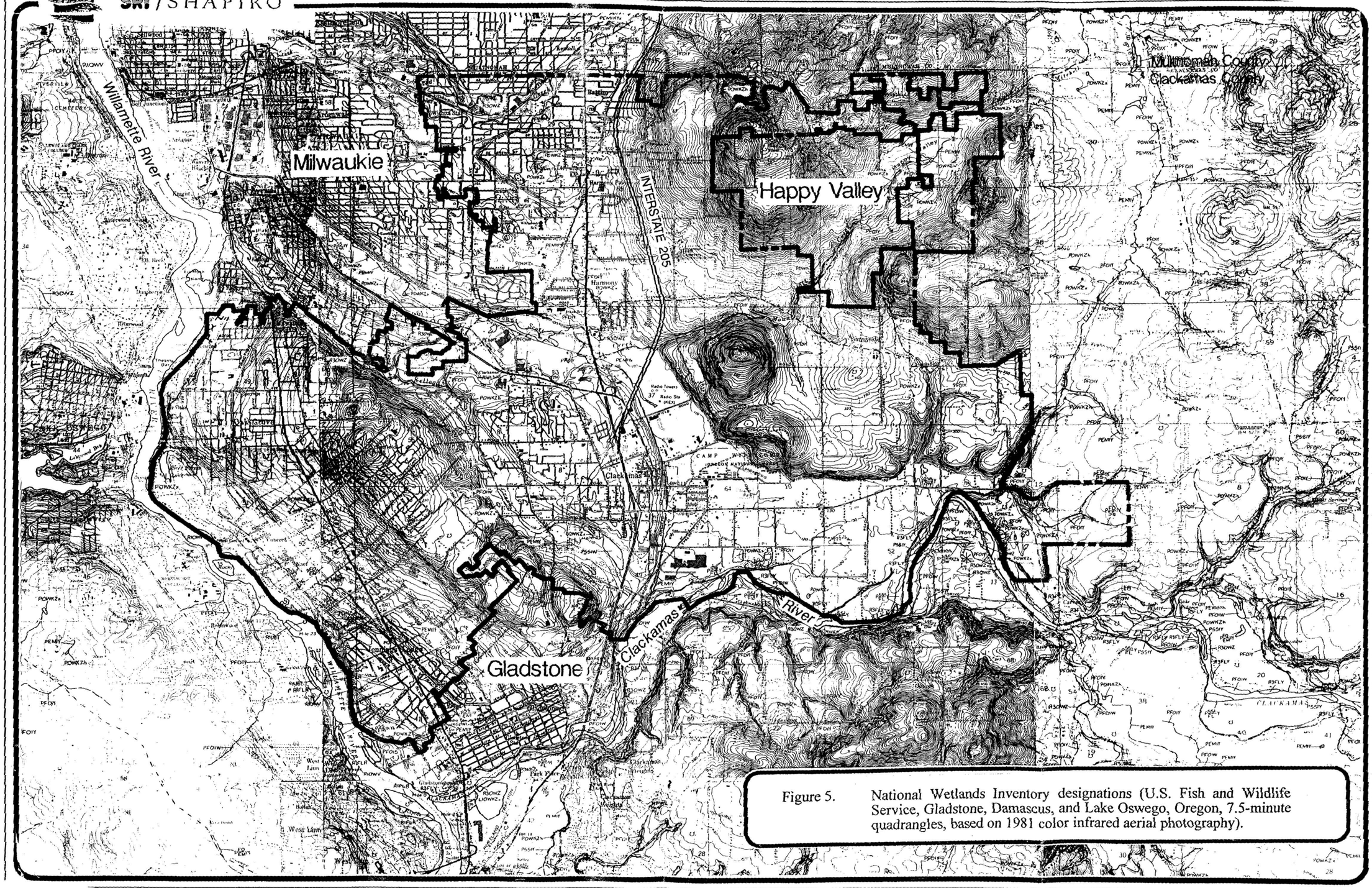


Figure 5. National Wetlands Inventory designations (U.S. Fish and Wildlife Service, Gladstone, Damascus, and Lake Oswego, Oregon, 7.5-minute quadrangles, based on 1981 color infrared aerial photography).

5.2 NCUA WCPI WETLANDS

5.2.1 Total Wetland Acreage

A total of 61 wetland sites were identified in the inventory for a total of 149.61 acres of potentially jurisdictional wetland. Some of the sites are actually composites of more than one wetland unit, especially where no significant surface water blockages or disconnections occur, or where the wetland area seem to function as a hydrologically connected mosaic. Of the total, 37 wetlands were delineated under the on-site method and 24 wetland sites were identified under the off-site method. The boundaries of one wetland, A-1, were staked and flagged and then surveyed by Clackamas County. That surveyed map was incorporated in the final analyses of the report.

5.2.2 Distribution and Location

The location and distribution of wetlands identified in the study generally correlate with stream courses and/or topographically defined drainageways. The greatest number of wetlands were found in the predominantly Industrially zoned Area B (21 total). Several of these were atypical, in that they were not associated with well-defined drainageways. Conversely, all wetland identified in Areas A, C, and D were directly associated with drainages. Most, but not all, of the wetlands in Areas E, F, G, and H were associated with drainages, the exceptions functioning as hydrologically isolated systems.

A total of 66.58 acres of palustrine emergent wetlands were identified in the project area, 33.20 acres of palustrine forested wetlands, 32.18 acres of open water wetlands, and 17.02 acres of palustrine scrub/shrub wetlands.

Nine (9) wetlands, totaling 18.14 acres, were identified in the Clackamas River Direct subbasin. Of these, 17.0 acres were emergent types, 0.22 acres forested, and 0.92 acres were scrub/shrub.

Nine (9) wetlands, totaling 9.22 acres, were identified in the Cow Creek subbasin. Of these, 6.29 acres were emergent types and 2.93 were of the scrub/shrub type.

Five (5) wetlands, totaling 6.72 acres, were identified in the Johnson Creek subbasin. Of these, 0.10 acres were emergent, 0.19 acres forested, and 6.43 acres were open water wetlands.

Ten (10) wetlands, totaling acres, were identified in the Kellogg Creek subbasin. Of these, 0.69 acres were emergent, 15.29 acres of forested, 1.23 acres of open water wetlands, and 13.17 acres were scrub/shrub types.

In the Mount Scott subbasin, fifteen (15) wetland sites were found totaling 64.54 acres. A total of 33.49 acres of emergent, 7.82 acres of forested, and 23.23 acres of open water wetland types make up the total.

In the Rock Creek subbasin, 2.26 acres of wetland were found. Emergent types totaled 0.29 acres, 0.16 acres of forested wetlands were found, and a total of 1.81 acres of open water wetlands are in this subbasin.

Within the Sieben Creek subbasin, a total of 2.08 acres of wetland were identified, comprised of 0.09 acres of emergent, 1.88 acres of forested, and 0.11 acres of open water types.

Lastly, the Willamette River Direct subbasin has 16.27 acres of wetland in total, comprised of 8.63 acres of emergent, and 7.64 acres of forested wetland.

5.2.3 Boundary Determinations

It is difficult to assess the accuracy of wetland boundaries. There are various error components inherent to the maps we have prepared. For example, mapping wetlands on acetate overlays to the aerial photographs, even using very fine-point pens results in accuracy losses. Wetlands identified using the off-site method are recognized as less accurate than actually determining boundaries on the site. In most off-site cases, in our opinion, the methods employed resulted in somewhat larger wetland areas than what may have been found if sampling on-site had been possible. Wetland boundaries were not surveyed (site A-1 was the only exception). The boundaries of wetlands identified by sampling on-site are only as accurate as the degree of precision found possible in placing a boundary on the aerial photograph. This was especially true, for instance, where dense vegetation obscured the site and the investigator could not know exactly where he/she was on the ground.

Finally, we recognize that not all wetlands that exist in the NCUA landscape were identified. First, it was not possible to capture all wetlands within the 0.01 acre resolution limit (20.8 feet by 20.8 feet), as required under WCPI rules, using the methodologies employed in the study. Second, other wetland areas may not have been identified in the composite field maps, may not have been identifiable on the aerial photographs, or were not accessible or otherwise visible as we traveled through the project area. In spite of this caveat, it is our opinion that on the basis of area greater than 95% of wetlands present in the project area have been identified.

As the process continues into public hearings and workshops, more information may become available. Any additional potential wetland sites identified in that process can be sampled, mapped, valuated, and subjected to Goal 5 analyses.

5.3 FUNCTIONS AND VALUES ASSESSMENT SUMMARY

5.3.1 Functions and Values Summary

The complete functions and values questions, individual answer sheets, and the various sorted summary sheets are provided in Appendix B. The results from the assessment were first collated in tabular form, with all average scores listed for each wetland's functions and values category. A series of tables were then generated, sorted in descending order, one table per sorted functions and values category. Each table included the maximum, mean, and average score for each category. An additional column to each of the tables was inserted giving the the total sum of the average scores across all functions and values.

Independent of the results of the functions and values assessment, each staff person who had conducted field work prepared a statement of the functions performed by and values possessed (or lack thereof) of each wetland in this study. Staff were directed to develop their statements comparing both other wetlands in the study area and other wetlands identified and observed in the region (e.g., Metro/Tri-County area, lower Willamette Basin). The resulting descriptions were then compared to the results of the Modified New Hampshire Method results and a preliminary list was developed for those wetlands considered significant, non-significant, and of medium overall value.

A word of caution is in order when interpreting the evaluation results. The most important thing to remember is that these evaluation scores are a *relative* measure of wetland values and the scores are only as accurately descriptive of inherent wetland functions and values as the questions prompt. All wetlands have value, but in certain circumstances and with a specific set of planning priorities one can value some wetlands over others. Further, if one wanted to assess more accurately the intrinsic value of any given wetland, other methods may be more appropriate (e.g., Habitat Evaluation Procedure) and observations over a much longer time period would be required.

5.3.2 Criteria for Significance Determinations

The following criteria were used to determine whether any given wetland evaluated was considered to be a significant wetland resource. In addition, these criteria were used to evaluate whether any given wetland was a non-significant wetland resource. It is important to note that best professional judgment was used in this final analysis to determine whether a wetland is significant or non-significant. In other words, the criteria listed below were used not in a rigid, deterministic sense, but as a guideline joined with our observations of each site. It is also important to note those wetland sites where access permission was denied or otherwise not obtained were evaluated using all available information and making the most reasonable decisions from a more limited data base. Actual functions performed and values attached to these wetlands may be different if based on on-site data.

Significance Threshold Criteria

1. The wetland may be considered significant if, according to major changes in average scores above the mean, it scored high in at least one functional value category. Conversely, the wetland may be non-significant if, according to significant changes in average scores below the mean, it scored low in the functional value categories.

2. The wetland may be significant if summed totals of the average scores across functional value categories are equal to or greater than the 60th percentile. Conversely, the wetland may be non-significant if summed totals of the average scores across functional value categories are equal to or less than the 30th percentile.

3. The wetland is adjacent to a stream. The evaluation included considering whether the wetland was "above headwaters" or was "below headwaters".

4. The wetland is currently within a Resource Protection Zone, PUD, or Conservation Easement.

5. The wetland is a compensatory wetland mitigation site or there is significant opportunity for compensatory wetland mitigation at the site.

6. The wetland is large in area (greater than or equal to 0.5 ac) and there is significant opportunity for enhancement of functions and/or values.

7. The wetland may be considered to be non-significant if the wetland area is small (less than or equal to 0.25 ac) and the wetland is hydrologically isolated.

8. Using best professional judgment, using all of the above criteria as a guide combined with knowledge (observations and/or data) of the site.

[as the County proceeds through the public involvement process, additional sites could be identified as significant. For example, a local community could demonstrate with substantial evidence that a wetland site has social or ecological value not recognized in the original inventory.]

5.3.3 Significance Findings

Tables 5.3.3(1) and 5.3.3(2) summarize the ranking of the wetlands on the basis of the Oregon Modified Wetland Functions and Values Assessment Methodology (seen Section 3.5 for description). Other wetlands were added to those on each list scoring above the sixtieth percentile rank on the basis of the threshold criteria noted in Section 5.3.2.

Table 5.3.3 (1)

Goal 5 Significance Rating

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS: ECOL. INT. FV-1	WILD. HAB. FV-2	FLOOD CONT. FV-7	SED. TRAP. FV-9	NUTR. ATTEN. FV-10	ECOL. FUNCT. SUMMED SCORE	X ADJ	%	
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	1.74	100	
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	1.72	98.56	
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	1.70	97.69	
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	1.60	91.93	
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	1.53	87.61	
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	1.50	85.88	
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	1.42	81.56	
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	1.33	76.08	
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	1.24	71.18	
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	1.24	70.89	
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	1.16	66.57	
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	1.15	65.99	
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	1.15	65.71	
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	1.14	65.13	
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	1.09	62.25	60th %
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	1.00	57.06	
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.95	54.47	
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.94	53.89	
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.94	53.89	
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.93	53.31	
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.91	51.87	
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.88	50.43	
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.87	49.86	<= Median
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.82	46.97	<= Mean
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.80	45.53	
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.79	45.24	
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.79	44.96	
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.76	43.52	
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.74	42.07	
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.72	40.92	
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.67	38.04	
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.59	33.72	
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.55	31.41	
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.49	27.67	30th %
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	23.63	

Goal 5 Significance Rating

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS: ECOL. INT. FV–1	WILD. HAB. FV–2	FLOOD CONT. FV–7	SED. TRAP. FV–9	NUTR. ATTEN. FV–10	ECOL. FUNCT. SUMMED SCORE	X ADJ	%	
G–03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.41	23.34	
B–11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.39	22.19	25th %
A–05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.38	21.33	(mean/2)
F–05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.35	19.88	
B–10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.34	19.02	
B–07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.32	17.87	
B–14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.30	16.71	
A–02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.28	15.56	
B–18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.28	15.56	
C–08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.25	13.83	
C–01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.23	12.97	
B–15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.18	9.80	
E–01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.18	9.80	
C–06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.15	8.36	
A–06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.08	4.03	
B–09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.07	3.75	
A–07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.00	0	
A–08	1.50	NOT ASSESSED								
B–08	0.22	NOT ASSESSED								
E–03	0.10	NOT ASSESSED								
E–04	6.09	NOT ASSESSED								
F–07	0.59	NOT ASSESSED – PART OF PUD (SIGNIFICANT)								
F–08	0.64	NOT ASSESSED								

AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.81	46.34
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.00	0.00
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	1.74	100.00

26 Sites > Mean
29 Sites < Mean

55 Sites Assessed
5 Sites Not Assessed (marginally wetland)

60 Total Sites (excluding gravel and sewage ponds)

Table 5.3.3 (2)

Social Values to be considered in Goal 5 ESEE Analysis

SITE	WETLAND ACREAGE	SOCIAL VALUES: URBAN QUALITY OF LIFE: EDUC. POTENT. *FV-4*	VIS./AES. QUAL. *FV-5*	URBAN SET. *FV-12a*	URB. WILD. HAB. *FV-12b*	URB. EDUC. OPPOR. *FV-12c*	VIS./ AES. QUAL. *FV-12d*	WATER-BASED REC. *FV-12e*	SOCIAL VALUES SUMMED SCORE	X ADJ	%
D-03	18.42	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	3.77	100
G-01	7.63	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	3.55	94.16
A-01	4.97	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	3.25	86.21
B-01	1.81	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	3.14	83.29
F-03	0.15	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	3.06	81.17
C-03	0.17	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	2.97	78.78
C-04	0.34	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	2.97	78.78
C-05	0.81	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	2.95	78.25
G-02	6.75	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	2.74	72.68
C-07	0.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	2.65	70.29
D-02	7.57	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	2.30	61.01
F-02	12.95	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	2.24	59.42
F-04	13.17	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	2.24	59.42
C-02	1.49	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	2.14	56.76
F-01	2.09	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	2.08	55.17
D-01	4.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	2.06	54.64
A-04	0.38	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	1.88	49.87
B-20	17.56	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	1.81	48.01
C-06	0.09	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	1.78	47.21
H-05	0.03	0.42	0.47	1.00	0.18	0.30	0.25	0.46	3.08	1.72	45.62
H-04	1.75	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	1.71	45.36
B-16	1.96	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	1.61	42.71
B-06	10.93	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	1.60	42.44
B-03	0.16	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	1.58	41.91
H-02	0.42	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	1.58	41.91
F-06	0.05	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	1.51	40.05
B-18	0.35	0.38	0.52	0.60	0.18	0.23	0.48	0.46	2.85	1.49	39.52
B-13	3.12	0.43	0.49	0.75	0.54	0.10	0.13	0.38	2.82	1.46	38.73
E-02	0.10	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	1.41	37.40
H-01	0.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	1.31	34.75
H-03	0.01	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	1.25	33.16
D-05	0.09	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	1.24	32.89
B-04	0.90	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	1.21	32.10
B-09	0.13	0.31	0.51	0.75	0.10	0.20	0.30	0.37	2.54	1.18	31.30
F-05	0.07	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	1.17	31.03
A-07	0.54	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	1.15	30.50
C-01	3.14	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	1.13	29.97

Social Values to be considered in Goal 5 ESEE Analysis

SITE	WETLAND ACREAGE	SOCIAL VALUES: URBAN QUALITY OF LIFE: EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.	SOCIAL VALUES SUMMED SCORE	X ADJ	%
		FV-4	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*			
B-02	0.92	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	1.11	29.44
B-14	0.33	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	1.06	28.12
A-02	0.09	0.43	0.47	0.50	0.10	0.40	0.20	0.30	2.40	1.04	27.59
B-15	0.32	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	1.03	27.32
B-12	0.33	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	0.93	24.67
B-05	4.31	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	0.91	24.14
B-17	0.20	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	0.84	22.28
C-08	0.06	0.19	0.36	0.60	0.10	0.10	0.55	0.27	2.17	0.81	21.49
A-03	0.11	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	0.75	19.89
B-07	0.24	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	0.72	19.10
B-11	1.80	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	0.72	19.10
G-03	0.10	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	0.71	18.83
D-04	4.81	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	0.65	17.24
A-05	0.16	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	0.63	16.71
E-01	0.34	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	0.63	16.71
B-10	0.60	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	0.52	13.79
A-06	0.29	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	0.00	0.00
A-08	1.50	NOT ASSESSED									
B-08	0.22	NOT ASSESSED									
B-21	0.62	NOT ASSESSED									
E-03	0.10	NOT ASSESSED									
E-04	6.09	NOT ASSESSED									
F-07	0.59	NOT ASSESSED – PART OF PUD (SIGNIFICANT)									
F-08	0.64	NOT ASSESSED									
AVG.	2.45	0.41	0.42	0.63	0.34	0.31	0.37	0.45	2.99	1.63	43.20
MIN.	0.01	0.17	0.00	0.10	0.02	0.10	0.10	0.09	1.36	0.00	0.00
MAX.	18.42	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	3.77	100.00

Large undisturbed wetlands tended to score high while smaller wetlands tended to rank lower. Smaller wetlands have less vegetative diversity and are more likely to be disturbed. Lower value wetlands are often located in areas where some development or other disturbance has already occurred. Some of these low value wetlands are isolated or are associated with drainages with extremely seasonal hydrology. A few clusters of small wetlands scored relatively high because they function as a single wetland unit, for example in providing wildlife habitat, were associated with significant perennial streams (such as Mount Scott Creek or Sieben Creek), and/or were within critical slope or resource protection zones.

Wetlands that rated highest overall, based on the predominance of evidence and our best professional judgment, were located east of I-205 in Areas A, B, C, and D. Of the 24 wetlands that ranked the highest, 16 were found in these three areas, with four of five Area D wetlands scoring in the higher tier. In contrast, 8 high-ranking wetlands were found east of I-205 in three study areas E, F, and G. These wetlands were mainly associated with Kellogg Creek and the Boardman Swamp area.

GENERIC ESEE

6.0 SUPPLEMENTAL ESEE CONSEQUENCES ANALYSES

6.1 SUPPLEMENTAL CONFLICT AND ESEE ANALYSES

6.1.1 Introduction

The economic, social, environmental and energy consequences of protecting, partially protecting, or not conserving a wetland resource site should not be considered in a vacuum. Each of these sites has *human* as well as *natural* history.

The relative environmental and social value of each wetland resource site, and hence its *significance*, is a consequence of the cumulative impact of natural events as well as human actions. Similarly, the ESEE consequences of protecting, partially protecting or not protecting a wetland resource site will depend on a number of site-specific factors, including the site's regulatory history, the location of property lines and public improvements relative to the resource site, and planned public and private development affecting the resource site.

One of the key questions to be asked in any ESEE consequences analysis is: How practical is it to *avoid, or plan around* significant wetland resource sites. Consider a wetland that is located at the rear of a property, and which is entirely within a stream corridor that is *already* protected by the comprehensive plan or zoning code. The ESEE consequences of protecting such a wetland resource site will be different than if the wetland resource site were located in the middle of property, outside a stream corridor, and without any existing protection under the comprehensive plan.

It is recognized that each wetland resource site is unique, in terms of its location, quantity and quality, and in terms of the precise nature of its conflicting uses. At the same time, certain wetland resource sites share locational and regulatory characteristics, and have similar conflicting uses and ESEE consequences. Many of North Urban Clackamas County's inventoried wetland resource sites are associated with stream corridors and floodplains. Some of these stream corridors already are designated as Open Space (Resource Protection or Major Hazard). Other wetlands are isolated from stream corridors, and may have no Open Space designation, but are nevertheless protected by the Clackamas County Zoning Code (ZDO). For the above reasons, it is useful to *categorize* wetland resource sites according to the types of conflicting uses that affect them, and according to their location relative to property lines, plan designations, zoning districts and applicable development standards.

Table 6.1.3 describes each *significant* WRS and the broad categories of conflicting uses affecting it:

6.1.2 Regulatory Context

The ESEE consequences of allowing, or not allowing, conflicting uses on the wetland resource site, and *vice versa*, are dramatically affected by the location of the resource site within the Portland Metropolitan Urban Growth Boundary.[1] Because *all* wetland resource sites in this analysis are within the UGB, there is the clear *expectation* that *urban* development will be permitted -- if not on, at least around -- the resource site.

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[1] The UGB was adopted by the Columbia Regional Association of Governments (CRAG) in 1977. Following LCDC review in 1979, CRAG's successor agency, METRO, re-adopted the metropolitan UGB in 1980.

The type of urban development that may occur is determined by the relevant plan designation. The ESEE consequences of allowing, or not allowing, conflicting uses on the wetland resource site primarily are dependent on the plan designations and zoning affecting the site.

However, the Clackamas County Comprehensive Plan for the North Urban Area *already* limits, and in some cases, *prohibits* conflicting uses affecting wetland resource sites. In the North Urban Area, the *Open Space* designation *anticipates* that conflicting uses will be constrained by natural resources, hazards, or public/community ownership. The *Open Space* designation was developed based on a comprehensive Goal 5 analysis, and includes these three sub-designations:

- *Resource Protection*
- *Major Hazard*
- *Public and Community Use*

The *Open Space* plan designation has been in effect since 1980, the same year that METRO adopted the UGB. Each of the *Open Space* sub-designations *already* limits uses that conflict with wetland resource sites, but in different ways.

ZDO 1001.02 explains how the development standards of the Clackamas County Zoning Code are to be applied. Subdivision and partitions must meet all of the ZDO 1000 standards. Single- and two-family homes are subject to ZDO 1002.05 (rivers and stream corridors) and ZDO 1002.06 (wildlife habitats and distinctive resource areas).

ZDO 1002 Protection of Natural Features is designed to "protect the natural environment" and "significant natural features." (ZDO 1002.01) Any grading associated with development must "avoid substantial possibilities of . . . accelerated erosion; pollution, contamination or siltation of lakes, rivers and streams; damage to vegetation; injury to wildlife and fish habitats." (ZDO 1002.02.C)

ZDO 1002.05 Rivers and Stream Corridors *presumably* includes wetlands which are associated with these corridors. ZDO 1002.05.A requires that all development be designed, constructed and maintained to preserve river and stream corridors through "adequate" drainage and erosion control practices, and provide "buffer strips" along all river and stream banks. ZDO 1002.05.B establishes a *maximum* 150' buffer alongside the "stream bed," which may be reduced based on site-specific investigations. Development within floodplains is also regulated by County floodplain, hazard and open space standards (ZDO 703, 1003, and 1011).

ZDO 1002.06 Wildlife Habitats and Distinctive Resource Areas specifically addresses and generally protects wetlands *within the 100 foot impact area* (ZDO 1002.06.A):

All developments proposed in[2] *or near (within 100 feet of) natural wetlands shall be designed to:*

1. *Preserve functions of groundwater recharge, water storage, turbidity reduction, nutrient filtration, biologic or botanical production, and protective habitat cover.*

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[2] The ZDO prohibits residential development in wetlands, but allows limited commercial and industrial development in wetlands.

2. *Provide compatibility with the continued performance of wetland functions, such as:*

   a. *Conservation of soil, vegetation, water, fish and wildlife.*

   b. *Low intensity, "dispersed" outdoor recreation (hiking, nature study).*

   c. *Utility easements, but only on peripheral areas and where alternative alignments are impractical.*

3. *Eliminate the need for filling, dumping and/or excavating in the wetland proper, unless approved pursuant to subsection 1011.04.*

4. *Maintain runoff coefficient and erosion equilibrium for lands bordering the wetlands substantially the same as if these lands were undeveloped. Pier construction, elevated pedestrian boardwalks, semi-impervious surfacing, bridging of natural drainageways, and retention of vegetation in areas not intended for buildings are recommended design methods.*

ZDO 1002.06.C requires that *identified* "significant natural areas" be protected from conflicting uses, including tree removal, building, road construction, filling, paving "to the extent necessary to protect the unique or fragile character or features that are the basis for their designation in the Comprehensive Plan." However, there are no inventoried "significant natural areas" within the North Clackamas County Urban Area.

ZDO 1011 Open Space and Parks is intended to "preserve a network of open space resources within the urban area." (ZDO 1011.01.A) "Open space preservation areas" include areas *generally* indicated as Open Space on the Northwest Urban Area map, *or* when one or more of the following open space resources is present." The "following" include:

- *Land or water necessary to assure a continuous network of open space (e.g., stream corridor, forested hillside)*
- *Bodies of water such as rivers, lakes or lagoons*
- *Wetlands*

The ZDO *used to protect* all wetlands in residential zones (ZDO 1011.01-03). However, in October of 1993, the Clackamas County Board of Commissioners adopted amendments to ZDO sections 1011-Open Space and Parks, 1002-Protection of Natural Resources, and 1001-General Provisions. These amendments recognized DSL's responsibility for reviewing development activities affecting jurisdictional wetlands and removed *local* zoning protection for wetlands which are not identified as *Open Space* on the North Urban Area Comprehensive Plan Map (ZDO 1002.06.A):

> *Development in wetland areas not identified as Open Space on the North Urban Area Comprehensive Plan Map . . . is subject to approval by the US Army Corps of Engineers and the Oregon Division of State Lands.*

As a result, locally-protected open space areas now are limited to wetlands in residentially designated areas, that have an Open Space designation on the Clackamas County North Urban Area Land Use Plan Map. The ZDC states that wetlands which are necessary to create a continuous network of open space *may* also be protected. In addition,

wetland recharge areas are specifically identified as Open Space. (ZDO 1011.02.A.5) Wetlands in industrial and commercial areas are subject to a different standard which *balances* wetland conservation and development values, as documented below. As noted in Section 3.6, such a case-by-case approach is not permitted under Goal 5.

ZDO 1011.02.B Prioritization states that "Open space shall be prioritized and developed as determined by the staff site analysis." "High priority" open spaces include stream corridors and forested hillsides, steeply-sloped areas and slope hazard areas, areas with severe erosion potential, wetlands with an Open Space overlay, and significant natural areas. Wetland recharge areas, among other resources, are considered "second priority" open space.

ZDO 1011.03 Development Standards and Limitations states that:

> *Site planning and development shall avoid disturbances of identified open space resources, except as provided in subsection 1011.03.B and C full use should be made of density transfers (see Section 1012), siting of structures and roads, and other appropriate means of designing the development around the open space.*

ZDO 1011.03.B states that "high priority open space shall be preserved outright" except for:

> *Commercial or industrial developments affecting wetlands or significant Natural Areas may be allowed, subject to the provisions of subsection 1011.04.*

ZDO 1011.03.C states that "second priority" open space shall be preserved to the "maximum extent possible" making use of "case-by-case" site development techniques, including multi-story construction, elevated pole structures, understructure parking and reduction in parking requirements, clustering of buildings, minimizing driveway and roadway widths, maximizing transit and pedestrian accessibility. ZDO 1011.03.D allows for wetlands and wetland recharge areas to be counted in meeting landscaping area requirements. Open space areas must be dedicated to the public, managed by a homeowners' association or other "legally responsible group," or preserved through conservation easements or other suitable mechanisms.

Thus, Clackamas County has *already* made the policy decision to conserve wetland resource sites in residentially-zoned areas which have an Open Space overlay, and to "limit conflicting uses" affecting wetland recharge areas within the 100 foot impact area. Wetlands in commercially- or industrially-zoned areas are subject to a case-by-case ESEE analysis to determine whether and how development may occur.

ZDO 1011.04 Conflict Resolution/Wetlands and Significant Natural Areas states that the Planning Director may approve disturbances to wetlands provided that "social, economic, energy and appropriate environmental considerations" are addressed and satisfied. **This section *requires* a site-by-site ESEE analysis, and directly contradicts a recent LUBA decision (*Logan Ramsey v. City of Portland,* LUBA No. 91-215) which states that:**

> ***. . . establishing a process for a case-by-case application of the Goal 5 planning process in conjunction with individual development requests does not comply with Goal 5 and the Goal 5 rule.***

Specific "environmental" standards are established for wetlands in commercial and industrial areas (ZDO 1011.04.D.1). Disturbance of the wetland must be "minimized" through design techniques and the following specific "conditions" must be satisfied:

a. *The wetland can be altered without substantial adverse impact upon the character of the area, and function of the wetland.*

b. *The wetland does not support rare or endangered species.*

c. *Elimination, alteration or relocation does not significantly alter water movement, including normal levels or rates of runoff into and from wetlands.*

d. *The proposed use or alteration of the wetland is approved by the US Army Corps of Engineers and the Division of State Lands.*

6.1.3 Supplemental Classifications

As noted in Section 5.0 of this report, there are several broad categories of conflicting land uses which share common characteristics, which are considered in the *supplemental* ESEE consequences analysis. The supplemental ESEE consequences analysis for these broad categories of land use is made more useful by considering whether the wetland resource site is already protected by a Resource Protection or Major Hazard overlay, and by considering where the resource site is located relative to property lines. For the purposes of this analysis, a "property" is defined as an individual parcel, or a group of contiguous parcels under the same ownership.

The following *supplemental* ESEE analyses are applicable to specific sites, where so indicated in the site-specific ESEE analysis in Section 5.0 of this report:

1. Residential Supplemental Analyses

Where the conflicting use is residential development, density transfer, and hence avoidance of wetlands usually can be facilitated through the flex lot or planned unit development processes. Most wetland resource sites in the North Urban Area are located within ULDR designations. The ESEE consequences analysis considers two broad sub-categories of land use situations:

1A. Open Space / Resource Protection Overlay Designation: This category includes *all* uses (except local public facilities necessary to serve the development) allowed in residentially-designated land, where the wetland resource is *already* recognized and conserved with an Open Space overlay. In such cases, a limited ESEE analysis is required, since affected significant wetland resource sites have already gone through the Goal 5 process and conflicting uses have already been determined and limited.

1B. Urban Low Density Residential (ULDR), where the *significant* wetland resource site is <u>not</u> overlaid by an Open Space overlay. To conserve significant sites, the Open Space Resource Protection overlay would be extended to cover the site.

1C. Medium, Medium High and High Density Residential Development where the economic and social (lost housing opportunities) consequences of avoiding the wetland resource site are typically greater than in LDR areas. The ESEE consequences analysis considers three broad sub-categories of land use situations. Avoidance is more difficult in this sub-category.

2. Commercial and Industrial Supplemental Analyses

For commercial and industrial development, the economic consequences (decreased property values and displaced jobs) of protecting wetlands are more significant. This type of development is represented by urban commercial and industrial plan designations (General, Retail, Office and Community Commercial; General and Light Industrial; Business Park). Because of standard building techniques and land use characteristics, avoidance is more difficult in this category of land use conflict.

3. Public and Semi-Public Development

This category includes a broad range of community and public uses, such as schools, parks, churches, hospitals or sewage treatment plants.

3A. Public and semi-public buildings, where the ESEE consequences analysis is similar to the supplemental commercial/industrial analysis, above. If institutional development is proposed in a residential area with an Open Space overlay, conflicts have already been resolved in favor of affected significant wetland resource sites.

3B. Public and semi-public park and recreational facilities (*e.g.,* schools, churches, public parks), where conflicts with WRS functions and values may be less obvious. Here the trade-offs are often between developed park land and public use on the one hand, and preservation of natural wetland functions and values on the other.

4. Public Facilities

Public facilities are needed to support urban development, such as streets, trails, sewer, storm drainage and water facilities, or other utilities. Avoidance is often most difficult for this category, because (a) gravity flow sewer lines often are most economical and energy efficient if constructed within a drainage corridor, and (b) planned road extensions are often most economical and direct when constructed in wetlands, because wetlands frequently have been passed over as development sites.

4A. Major sanitary sewer, water, storm drainage or transportation facilities usually are recognized on the County's public facilities plan (PFP) or capital improvements plan (CIP). PFP and CIP projects are, by definition, necessary to support planned urban development. Avoidance may be implausible where the specific route of a PFP or CIP project has already been determined, usually after extensive public involvement.

4B. Many public facilities, especially those constructed to support individual developments, are not recognized on the PFP. Where it is practical to *avoid* the WRS and *serve buildable land*, then the ESEE analysis will favor conservation of the wetland. However, there are instances where public facilities must cross a wetland to serve development, or to connect with other sewer, water, storm drainage or transportation facilities. These situations will be explicitly recognized in site-specific ESEE analyses, and the "conflicting use" probably will be allowed on a limited basis.

5. Native Vegetation Removal and Excavation

The removal of native vegetation, whether as a result of clearing, excavation, commercial timber harvests, or farming, can adversely affect wetland functions and values.

5A. The removal of native vegetation is not necessarily associated with development activity, and does not currently require a permit in Clackamas County when it occurs outside the development process. Yet native vegetation removal and excavation can compromise wetland functions and values.

5B. Commercial forestry and farming, on the other hand, are listed as permitted or conditional uses, depending on the applicable zoning district.

Table 6.3.1 describes which supplemental ESEE analyses apply to significant WRSs within the North Urban Planning Area:

5A. The removal of native vegetation is not necessarily associated with development activity, and does not currently require a permit in Clackamas County when it occurs outside the development process. Yet native vegetation removal and excavation can compromise wetland functions and values.

5B. Commercial forestry and farming, on the other hand, are listed as permitted or conditional uses, depending on the applicable zoning district.

Table 6.3.1 describes which supplemental ESEE analyses apply to significant WRSs within the North Urban Planning Area:

Table 6.1.3
Supplemental Conflicting Use Matrix for
***Significant* Wetland Resource Sites (WRSs)**

WRS ID Number	Res 1A	Res 1B	Res 1C	C-I 2	Rec 3A	Inst 3B	PFP 4A	PF 4B	VR 5A	Ag-For 5B
A1	■	■			■	■	■	■	■	■
A3	■	■			■	■	■	■	■	■
A4	■				■	■		■	■	
A5		■			■	■	■	■	■	
A8	■				■	■	■	■	■	■
B1		■			■	■		■	■	
B2				■		■	■	■	■	
B3				■		■		■	■	
B4				■		■	■	■	■	
B5,B6				■	■	■		■	■	
B12				■		■		■	■	
B16			■	■		■		■	■	
B20				■	■	■	■	■	■	
B21				■		■		■	■	
C1		■			■	■	■	■	■	
C2	■				■	■		■	■	
C3	■				■	■		■	■	■

Table 6.1.3 Continued

WRS ID Number	*Res 1A*	*Res 1B*	*Res 1C*	*C-I 2*	*Inst 3A*	*Rec 3B*	*PFP 4A*	*PF 4B*	*VR 5A*	A-F 5B
C4	■					■	■	■	■	■
C5	■					■		■	■	■
C7	■					■	■	■	■	■
D1		■					■	■	■	
D2		■					■	■	■	
D3,4		■				■	■	■	■	
D5		■						■	■	
E2		■		■		■		■	■	
E4	■							■		
F1	■	■						■		■
F2	■							■	■	
F3	■							■	■	
F4	■					■		■	■	
F7		■						■	■	
F8	■							■	■	
G1		■				■		■	■	■
G2	■					■		■	■	
H1		■						■	■	
H2	■					■		■	■	
H3		■						■	■	
H4		■	■	■		■		■	■	

6.2 SUPPLEMENTAL ESEE ANALYSIS OF ALL PERMITTED OR CONDITIONALLY PERMITTED USES ALLOWED IN RESIDENTIAL ZONES, WHERE THE WETLAND RESOURCE IS *ALREADY* RECOGNIZED AND PROTECTED BY THE CCCP OPEN SPACE OVERLAY DESIGNATION.

Residential plan designations include Low, Medium, Medium High, High and Special High Density Residential.[3] The Open Space overlay includes Resource Protection and Major Hazard overlays. Generally, the CCCP and the ZDO provide for the conservation of wetland resource sites through the planned unit development process and density transfer.

Category 1A *significant* wetland resource sites represent approximately 47 acres and 34 percent of the wetlands in the study area.

Although a "program to achieve the goal" has *already* been adopted and acknowledged as complying with Statewide Planning Goal 5, a limited ESEE analysis is necessary for significant wetland resource sites in this category to consider conflicting public facilities uses.

For the significant wetland resource sites identified above, otherwise permitted and conditionally permitted uses in residential zones are *prohibited* where there is also a Resource Protection or Major Hazard Overlay designation.[4] Conflicting *activities* identified in Section 6.3 of this report are not regulated through the local development review process. To the extent that conflicting activities are regulated, it is through other local, state and federal programs, which are not directly related to Clackamas County's land use program.

As described in the introduction to these supplemental analyses, the Clackamas County Zoning Code (ZDO) *already protects* wetland resource sites in residential areas *with an Open Space* overlay designation from conflicting uses. These significant wetland resource sites, exclusive of their impact areas, have no conflicting uses, and have been *fully protected* in accordance with OAR 660-16-005(1).[5]

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[3] ZDO 301.02.A.3 states that land with "hydrological conditions such as floodplains or wetlands shall be zoned R-10, R-15 or R-20." Thus, ULDR areas designated for Resource Protection should be zoned for large-lot single-family residential development. Such large-lot zoning facilitates density transfer through clustering of residential development, to avoid the wetland resource site.

[4] The ZDO used to protect *all* wetlands in residential zones (ZDO 1011.01-03). However, in October of 1993, the Clackamas County Board of Commissioners adopted amendments to ZDO sections 1011-Open Space and Parks, 1002-Protection of Natural Resources, and 1001-General Provisions. These amendments recognized DSL's responsibility for reviewing development activities affecting jurisdictional wetlands and removed *local* zoning protection for wetlands which are not identified as *Open Space* on the North Urban Area Comprehensive Plan Map (ZDO 1002.06.A):

> *Development in wetland areas not identified as Open Space on the North Urban Area Comprehensive Plan Map ... is subject to approval by the US Army Corps of Engineers and the Oregon Division of State Lands.*

[5] However, secondary land use activities may have adverse impacts on wetland resource functions and values (see Goal 5 ESEE Consequences Analysis Methodology). Such secondary activities (e.g., children playing, pets roaming, upstream runoff, etc.) are not listed as permitted or conditional uses, although they may be regulated on a non-site-specific basis by

The possible exceptions may be: (1) public facilities such as streets or sewer projects (which are not listed as permitted or conditional uses in any residential district); (2) vegetation removal (which is not specifically regulated by local ordinances), and (3) other open space uses, such as developed parks. *Conflicting uses 1 and 2, above, are addressed in the supplemental ESEE analyses related to public facilities and vegetation removal, and in site-specific ESEE analyses.*

Similarly, Clackamas County has already made a decision to allow conflicting uses and activities *on a limited basis* in the *impact area* surrounding wetlands. "Second priority" open space areas include "land used as a recharge area for wetlands" (ZDO 1011.02.B.2). Such second priority wetland recharge areas have a 100-foot impact area, within which conflicting uses are allowed on a limited basis, subject to the standards of ZDO 1002.06 Wildlife Habitats and Distinctive Resource Areas. This section of the ZDO[6] specifically addresses and limits conflicting uses and activities on land surrounding wetlands[7] through design standards (ZDO 1002.06.A).

Thus, the ZDO recognizes that there are conflicting uses and activities affecting the impact area surrounding each significant wetland resource site that is residentially designated, with an Open Space overlay. Conflicts with uses and activities which adversely affect wetlands resource sites (*i.e.*, uses which are permitted or conditionally permitted in any of the residential zones) are resolved through the application of design standards, in accordance with OAR 660-16-010(3).

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the County of other agencies. For example, County Animal Control may help to contain roving pets, but animals are not controlled by *land use regulations*. Therefore, the County considers these secondary impacts as beyond the scope of the ESEE consequences analysis, because these secondary activities are not regulated by the standards of the ZDO.

[6] ZDO 1002.06.A reads as follows:

> *All developments proposed in* [commercial or industrial only] *or near (within 100 feet of) natural wetlands shall be designed to:*
>
> 1. *Preserve functions of groundwater recharge, water storage, turbidity reduction, nutrient filtration, biologic or botanical production, and protective habitat cover.*
> 2. *Provide compatibility with the continued performance of wetland functions, such as:*
>   a. *Conservation of soil, vegetation, water, fish and wildlife.*
>   b. *Low intensity, "dispersed" outdoor recreation (hiking, nature study).*
>   c. *Utility easements, but only on peripheral areas and where alternative alignments are impractical.*
> 3. *Eliminate the need for filling, dumping and/or excavating in the wetland proper, unless approved pursuant to subsection 1011.04.*
> 4. *Maintain runoff coefficient and erosion equilibrium for lands bordering the wetlands substantially the same as if such lands were undeveloped. Pier construction, elevated pedestrian boardwalks, semi-impervious surfacing, bridging of natural drainageways, and retention of vegetation in areas not intended for buildings are recommended design methods.*

[7] This section appears inconsistent with other sections of the ZDO which *prohibit* conflicting uses in wetlands (*e.g.*, ZDO 1011.04, which states that "High priority open space wetlands shall not be disturbed unless approved by the Planning Director, pursuant to subsection 1305.02, for a specific commercial or industrial development plan"). The only way that development can occur "in" a wetland is if the development is commercial or industrial in nature.

No conflicting land uses are allowed on the wetland resource site *per se*, and each wetland resource site in this category is fully protected from conflicting residential development. Conflicts with uses and activities within the impact area are allowed on a limited basis, in accordance with OAR 660-16-010(2).

Supplemental Analysis IB addresses significant wetland resource sites that are located in residential plan designations, but which are not subject to an Open Space overlay designation.

6.3. URBAN LOW DENSITY RESIDENTIAL DEVELOPMENT AFFECTING A SIGNIFICANT WETLAND WHERE THERE IS NOT AN OPEN SPACE OVERLAY.

This supplemental ESEE analysis is concerned *only* with low density residential housing and accessory uses affecting wetland resource sites that are designated ULDR without a Resource Protection or Major Hazard overlay. Specific conflicting uses include land divisions (partitions, subdivisions, planned unit developments, construction of houses and accessory structures, construction of fences, driveways and parking areas, lawns and gardens, vegetation removal, and construction of supporting streets and utilities.[8]

Vegetation removal and construction of public streets and utilities are addressed under the Vegetation Removal and Public Facilities supplemental ESEE consequences analyses, respectively.

Category 1B *significant* wetland resource sites represent approximately 44 acres and 32 percent of the surveyed wetlands in the study area.

Regulatory Context

As noted in the discussion of Category IA wetlands, many of the North Urban Area's significant[9] wetland resource sites are already protected by plan policies, the Open Space overlay designation, and corresponding ZDO standards.

Until October of 1993, *all* wetlands in residential areas, regardless of their quality or ESEE consequences, were fully protected by ZDO standards. However, these wetlands had not yet been inventoried, or analyzed in accordance with the Goal 5 administrative rule. Recent amendments to the ZDO removed local protection for wetlands outside the Open Space overlay. Thus, wetlands in Category IB currently are regulated only by the US Army Corps of Engineers and the Division of State Lands. The purpose of this analysis is to provide the Clackamas County Board of Commissioners with factual information needed to resolve conflicts between ULDR residential uses and significant wetland sites that are not already protected by the Open Space overlay.

The Urban Low Density Residential districts (R-7 through R-20) were applied based on physical site conditions; *i.e.*, larger lot sizes are applied to more sensitive lands. ZDO

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[8] Other generic ESEE analyses consider other conflicting uses, including farming activities, planned public facilities (*i.e.*, those appearing in the County PFP) and vegetation removal.

[9] The following ULDR sites, which also do not have an Open Space overlay, were not considered *significant* based on SRI/Shapiro's methodology: A05 (0.16 acres); A06 (0.29 acres); E01 (0.34 acres); E02 (0.1 acres); E03 (0.06 acres); H03 (0.01 acres) and part of B18 (0.35 acres).

301.02.A.3 states that land with "hydrological conditions such as floodplains or wetlands shall be zoned R-10, R-15 or R-20."[10] Thus, LDR areas designated for Resource Protection should have been zoned for large-lot single-family residential development. Such large-lot zoning facilitates density transfer through clustering of residential development, to avoid the wetland resource site.

ZDO 301.09 states that all development in these districts must comply with ZDO 1000, Development Standards. In particular, ZDO 301.09 requires that sites of one acre or more, with 10% designated Open Space, be developed as a PUD (ZDO 1013.02.B). Thus conflicts involving larger wetlands affecting ULDR sites are particularly susceptible to density transfer and *avoidance* through the PUD process.

6.3.1 Consequences of Allowing Conflicting Low Density Residential Development

Environmental Consequences of Allowing Low Density Residential Development

The wetlands in this category should be considered as part of a much larger ecological system of urban wetlands, stream corridors, vegetated uplands and the Clackamas River. The intrinsic value of any particular wetland is affected by the degree of human intrusion and its connection with stream corridors and other natural resources. Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge.

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped be vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands caused by low density residential development contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Where wetlands are connected to other natural resources, they also provide essential travel corridors for wildlife.

When housing development (including buildings, roads and driveways, and lawns and gardens) replaces native vegetation, the value of the wetland for habitat decreases dramatically. (See Vegetation Removal Supplemental ESEE Analysis.) Residential development in wetland areas does not necessarily eliminate all fish and wildlife habitat, but it changes the habitat in a way that decreases biodiversity, because more aggressive and adaptable species tend to survive and displace less adaptable species under changed ecological circumstances.

Residential development in wetlands replaces native vegetation with impervious surface area, and contributes to flooding, reduced groundwater recharge, and increased sediment and

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[10] Note lot sizes in tables at the beginning of this generic ESEE analysis.

nutrient loading (from lawns, gardens, household wastes such as discarded oil, paints, etc.). The result is decreased water quantity and quality, and diminished fish and wildlife habitat.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of allowing full development over the wetland would mean that the qualities which make each inventoried wetland *significant* would be lost.

Economic Consequences of Allowing Low Density Residential Development

The economic consequences of replacing significant wetland resource sites with unrestricted residential development are less obvious, but are worthy of consideration. By allowing unrestricted development of the wetland resource site, development costs *may* be reduced. Since each wetland in this category is, by definition, a *significant wetland*, each would likely be regulated by state and federal agencies in any event. However, costs for regulating conflicting uses would likely increase -- both for the developer and the County.

Economic consequences vary considerably based on individual site conditions, as noted in the discussion of the economic consequences of conserving the wetland, below.

From the developer's point of view, the lack of local regulations may mean greater uncertainty and design costs -- costs which may be passed on to the housing consumer. Put simply, it is often easier and less time-consuming to develop as a straight subdivision, than a planned unit development. The costs of additional consultant time would be avoided, the thought and energy required to design the project may be reduced, and there would be less local government discretion and perhaps greater certainty in the review process.

The lack of local government regulation of wetlands could also affect the number, location and type of dwelling units, which could be detrimental to more traditional developers. Developers must build to the local housing market. If the market (or the developer's perception of the market) is limited to large single-family homes on large lots, then additional local regulation of wetlands could mean the difference between a development "penciling out" or not, at any given point in time.

On the other hand, there are a number of less obvious economic consequences that need to be considered. First, many studies[11] have demonstrated that wetlands can add value to developments -- both for neighbors and for purchasers of lots or units in the development. Development over a wetland could have the effect of decreasing neighboring property values and reducing the sales price of lots and houses in new development. Second, local governments and property owners face potential increases in storm water management, flood control and federally-mandated water quality improvement costs as wetlands are developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created through artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase if wetland water quality functions are diminished. Flood insurance rates may also increase in the future,

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11 See SRI/Shapiro reports for Winmar Co. - Columbia South Shore; Leupold-Stevens - Beaverton; and the Silverton Industrial Park.

based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a negative economic value by not providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is not clearly spelled out in the ZDO, the uncertainty and delay costs could increase for everyone involved.

Social Consequences of Allowing Low Density Residential Development

The social consequences of allowing unrestricted development of significant wetland resource sites would be mixed. On the positive side, housing costs might be reduced, assuming that the developer passes on potential development savings to the consumer. By increasing the amount of buildable land inside the regional Urban Growth Boundary, expansion of the UGB to farm and forest land might be slightly delayed. Out-of-direction travel to avoid the wetland, and associated pollution and traffic impacts might be slightly reduced, assuming that subdivisions in the future would otherwise be designed in a "grid" pattern. The ZDO's planned unit development section provides opportunities to mitigate, or even reverse, negative social consequences, as described under the social consequences of resource conservation.

The negative side of the unrestricted residential development equation is also compelling. Wetlands usually add amenity value to residentially developed land, and would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of developing the wetland area, which could otherwise be used as open space for the residential development. Wetlands provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing full development over the wetland would mean that the human-related qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Low Density Residential Development

Energy consequences of unrestricted residential development of wetlands are also mixed. Again, assuming standard subdivision practices, the results of building over the wetland could be more efficient use of residential land, which could prevent premature expansion of the region UGB, higher urban densities, more efficient use of infrastructure, shorter travel distances and less out-of-direction travel. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access. In summary, the adverse energy consequences could be significant, provided that developers choose, or County regulations required, the maximum development allowed under the ZDO in a grid street pattern with solar access design.

On the negative side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational opportunities, thus

reducing the need to drive for outdoor experiences. Thus, loss of wetland vegetation would have some adverse energy consequences.

6.3.2 Consequences of Limiting or Prohibiting Conflicting Low Density Residential Development

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting (low density residential) use.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in I.A.1 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting development on and near wetlands, or partially retained by prohibiting residential development on wetlands, and restricting residential development within the 100' impact area. Even with "full protection" of significant wetland resource sites, activities associated with residential development (pets, children, ATVs, run-off, etc.), which cannot be fully controlled by land use regulations, will probably degrade wetland values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be conserved.

Economic Consequences of Conserving the WRS

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. Often, impacts are less significant at the study area level than from the point of view of the individual property owner. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to property owner interests.

Study Area Level

At the study area level, the economic consequences of *avoiding* wetlands on ULDR properties without an Open Space overlay are minimal. In 1993, the North Urban Area includes an estimated 2,547 acres of unrestricted ULDR land area, of which an estimated 87 acres (3.4 percent) are wetlands. Assuming an average gross ULDR density of 4.5 units per acre, there is the capacity for an additional 11,462 dwelling units. In the worst case scenario, if all 87 wetland acres were fully preserved, and *no development* were to occur on these 87 acres, then the North Urban Area could still accommodate 11,072 units. In this unlikely case, the North Urban Area portion of the 20-year regional UGB would have to expand less than one year earlier (5% of the ULDR land supply) than otherwise to accommodate single-family residential housing needs.

The worst case scenario is unrealistic, in that it assumes: (a) *no* state or federal wetlands protection program; (b) that all 87 inventoried ULDR wetland acres will be fully protected, when this study has determined that only 12 wetlands, totally 43.99 acres, are significant; and finally (c) that the ZDO's planned unit development density transfer provisions will not be used. The ZDO density transfer provisions make it possible to transfer most of the dwelling units that would otherwise have been lost to wetland conservation. Thus, a more reasonable

scenario would be to assume a reduction of about one or two percent of the housing units, that otherwise would have been constructed on ULDR land within the North Urban Area, will not be constructed due to wetlands.

Large Properties

For properties of an acre or more, Clackamas County encourages 100% density transfer from protected wetlands to buildable areas on the same property, provided that the density on unrestricted land does not exceed the maximum allowable density for the next highest CCCP residential designation. Thus, the unrestricted portion of any ULDR site may develop at up to 12 dwelling units per acre. (ZDO 1012.03-05) Even where a wetland covers one-half of a property ownership zoned R-10, it will be possible to maintain *all* dwelling unit potential through the ZDO density transfer provisions. In these cases, the economic consequences of conserving wetlands are relatively minor. Only if a wetland (when combined with other natural constraints) covers more than half of a property, will residential densities necessarily be reduced.

Small Properties

On a lot of less than an acre, a planned unit development is not required. However, wetlands often separate property ownerships. In many cases, wetlands are associated with streams, and may be in proximity to an Open Space overlay. In such cases, wetland conservation has fairly minor consequences, because it is relatively simple to build on the front portion of the lot and to avoid the wetland. Where the wetland is centrally located on a small property, the economic consequences are usually more severe, or where the wetland blocks all access to a property, the economic consequences are extremely adverse, and make it impossible to completely *avoid* the wetland. Such situations will be noted on ESEE analyses associated with individual properties and in the supplemental Public Facilities ESEE consequences analysis. One method open to property owners to alleviate this adverse economic consequence is the variance process, which would provide for modification of dimensional standards of the applicable zoning district to be modified to allow siting outside the wetland.

Developer Impact

From the developer's point of view, the local regulations would mean increased uncertainty and design costs, which may be passed on to the housing consumer. To the developer, the value of a cluster housing unit at 12 units per acre may not be the same as a housing unit on a 10,000 square foot lot. As noted above, it is probable that most locally *significant* wetlands will be protected by state and federal standards anyway. The ZDO planned unit development standards at least allow the *option* of density transfer. Moreover, development costs for clustered housing units probably is considerably less per unit developed. Clustered housing also provides the opportunity to build more affordable housing units, which are an economic benefit to moderate-income housing consumers.

Positive Economic Consequences

On the other hand, there are positive economic consequences associated with wetland conservation. First, many studies have demonstrated that wetlands can add value to developments --- both for neighbors and for purchasers of lots or units in the development. Conserving wetlands through density transfer and thoughtful design probably will increase neighboring property values as well as the sales price of lots and houses in new development.

Second, potential costs for storm water management, flood control and federally-mandated water quality improvement program may decrease if wetlands are not developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created through artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase if wetland water quality functions are lost. Flood insurance rates may also increase based on flood studies that may have to be revised because urban run-off rates were under-estimated.

Third, there may be a positive economic value by providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is clearly spelled out in the ZDO, the uncertainty and delay costs could decrease for everyone involved.

Social Consequences of Conserving the WRS

The social consequences of conserving significant wetland resource sites would be mixed, but largely are positive.

On the positive side, housing costs may actually be reduced, assuming that the developer passes on potential development savings from cluster housing to the consumer. Out-of-direction travel to avoid the wetland, and associated pollution and traffic impacts might be slightly increased, although thoughtful design can usually avoid this problem. The ZDO's planned unit development section provides opportunities to mitigate, or even reverse, negative social consequences, through clustering of development and integrating wetlands into the overall design of the residential development.

Wetlands usually add amenity value to residentially developed land, and would only marginally reduce the amount of buildable land. Social consequences (open space, views, more affordable cluster housing, better urban design) would be positive as a result of conserving the wetland area, which can be used as open space for the residential development. Wetlands provide educational opportunities for those living near them, which would be maintained. Wetlands also provide opportunities for urban quiet and solitude, which has positive social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be conserved through planned residential development and density transfer. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would include retaining the qualities which help make each wetland *significant*.

Energy Consequences of Conserving the WRS

Energy consequences of wetland conservation are also mixed, but again are largely positive. With planned unit development density transfer provisions, wetlands could be conserved without major loss of housing unit potential, and without significant impact on the regional UGB. High urban densities could be achieved, resulting in more efficient use of infrastructure, shorter travel distances, and reliance on lower energy consumptive modes of travel.

6.4 MEDIUM, MEDIUM HIGH, HIGH DENSITY RESIDENTIAL DEVELOPMENT AFFECTING A SIGNIFICANT WETLAND WHERE THERE IS NOT AN OPEN SPACE OVERLAY.

This supplemental ESEE analysis is concerned with higher density residential housing and accessory uses affecting wetland resource sites that are designated MDR, HDR and MHDR without a Resource Protection or Major Hazard overlay. Specific conflicting uses include land divisions, planned unit developments, construction of houses and accessory structures, nursing homes, mobile home parks, child care centers, office and commercial developments, recreational facilities, churches, fences, driveways and parking areas, lawns and gardens, and of supporting streets and utilities.[1]

Category 3A *significant* wetland resource sites represent approximtely 7 acres and 5 percent of the surveyed wetlands in the study area.

6.4.1 Regulatory Context

As noted in the discussion of Category IA wetlands, many of the North Urban Area's significant wetland resource sites are already protected by plan policies, the Open Space overlay designation, and corresponding ZDO standards.

Until October of 1993, *all* wetlands in residential areas, regardless of their quality or ESEE consequences, were fully protected by ZDO standards. However, these wetlands had not yet been inventoried, or analyzed in accordance with the Goal 5 administrative rule. Recent amendments to the ZDO removed local protection for wetlands outside the Open Space overlay. Thus, wetlands in Category IC currently are regulated only by the US Army Corps of Engineers and the Division of State Lands. The purpose of this analysis is to provide Clackamas County with factual information needed to resolve conflicts between MDR, MHDR, HDR and SHDR residential uses and significant wetland sites that are not already protected by the Open Space overlay.

Higher density residential districts include the following:

Medium Density Residential	MR-1	12 units/acre
Medium High Density Residential	MR-2	18 units/acre
High Density Residential	HDR	25 units/acre
Special High Density Residential	SHDR	60 units/acre

These intensive residential zoning districts were applied based on physical site conditions; *i.e.,* sites with adequate transportation, public facilities and services to support higher density residential development. ZDO 302.02, 303.02 and 313.02) The MR-1, MR-2 and HDR zoning districts each have landscape area minimums, which could be used to accommodate significant wetland resource sites, without necessarily resulting in lost density. Individual ESEE analyses will examine the potential for conserving significant wetland resource sites affecting specific MR-1, HDR, SHDR and MR-2 sites. All of these residential zoning districts allow for office/commercial development on a limited basis. (See also Supplemental Commercial/ Industrial ESEE Analysis.)

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[1] Other generic ESEE analyses consider other conflicting uses, including farming activities, planned public facilities (*i.e.,* those appearing in the County PFP) and vegetation removal.

6.4.2 Consequences of Allowing Conflicting Higher Density Residential Development

Environmental Consequences of Allowing Higher Density Residential Development

The wetlands in this category should be considered as part of a much larger ecological system of urban wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the degree of human intrusion and its connection with stream corridors and other natural resources. Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge.

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flow during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands caused by medium and high density residential development contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Where wetlands are connected to other natural resources, they also provide essential travel corridors for wildlife.

When higher density residential or mixed use development (including buildings, roads and driveways, and lawns and gardens) replaces native vegetation, the value of the wetland for habitat decreases dramatically. (See Vegetation Removal Supplemental ESEE Analysis.) Residential development in wetland areas does not necessarily eliminate all fish and wildlife habitat, but changes the habitat in a way that decreases biodiversity, because more aggressive and adaptable species tend to survive and displace less adaptable species under changed ecological circumstances.

Higher density residential development in wetlands replaces native vegetation with impervious surface area, and contributes to flooding, reduced groundwater recharge, and increased sediment and nutrient loading (from lawns, gardens, household wastes such as discarded oil, paint, etc.). The result is decreased water quantity and quality, and diminished fish and wildlife habitat. Even if the wetland were conserved, the side effects of higher density residential development would probably be greater than most types of conflicting uses, due to the high population densities in close proximity to the wetland resource site.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of allowing full development over the wetland would mean that the qualities which make each inventoried wetland *significant* would be lost.

Economic Consequences of Allowing Higher Density Residential Development

The economic consequences of replacing significant wetland resource sites with unrestricted higher density residential development could be significant, dependent upon the size of the wetland relative to the property to be developed.

By allowing unrestricted development of the wetland resource site, development costs probably will be reduced. The desirability of the housing development could be decreased, since artificially landscaped areas would have to be substituted for less attractive (to some) and more natural wetland areas.

Since each wetland in this category is, by definition, a *significant wetland*, each probably will be regulated by state and federal agencies. However, the owner of higher density residential land probably will be able to make a better case that the wetland cannot be *avoided*, especially for smaller sites with larger wetlands. In addition, *local* regulatory costs would likely increase -- both for the developer and the County.

Economic consequences vary considerably based on individual site conditions, as noted in the discussion of the economic consequences of conserving the wetland, below.

From the developer's point of view, the lack of local regulations may mean decreased uncertainty and design costs -- costs which may be passed on to the housing consumer. Put simply, it is often easier and less time-consuming to develop a site without designing around a wetland of questionable amenity value. The costs of additional consultant time would be avoided, the thought and energy required to design the project may be reduced, and there would be less local government discretion and perhaps greater certainty in the review process.

The lack of local government regulation of wetlands could also affect the number, location and type of dwelling units, which could be detrimental to marketing the units in the development. If the market (or the developer's perception of the market) demands more traditional landscaping, and a developed, park-like appearance, additional local regulation of wetlands could mean the difference between a development "penciling out" or not, at any given point in time.

On the other hand, there are a number of less obvious economic consequences that need to be considered. First, many studies[2] have demonstrated that wetlands can add value to developments -- both for neighbors and for purchasers of lots or units in the development. Increasingly, the renting and buying public is developing an awareness of wetlands and their natural and social values. Development over a wetland could have the effect of decreasing neighboring property values and reducing the sales price of lots and houses in new development.

Second, local governments and property owners face potential increases in storm water management, flood control and federally-mandated water quality improvement costs as wetlands are developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created through artificial detention and water quality ponds, at considerable public expense. Clackamas

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[2] See SRI/Shapiro reports for Winmar Co. - Columbia South Shore; Leupold-Stevens - Beaverton; and the Silverton Industrial Park.

County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a negative economic value by not providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is not clearly spelled out in the ZDO, the uncertainty and delay costs could increase for everyone involved.

Social Consequences of Allowing Higher Density Residential Development

The social consequences of allowing unrestricted development of significant wetland resource sites would be mixed. On the positive side, housing costs might be substantially reduced, assuming that the developer passes on potential development savings to the consumer.

By increasing the amount of buildable land -- especially higher density buildable land -- inside the regional Urban Growth Boundary, expansion of the UGB to farm and forest land might be slightly delayed. The North Urban Area has only 230 acres of MR-1, HDR and MR-2 land, of which 10 acres have been surveyed as wetlands. This represents 4.3 percent of the higher density residential land base, and the potential from some 200 moderate-cost housing units.

There is a negative side to allowing unrestricted higher density residential development in significant wetland resource sites. The ZDO provides sufficient development flexibility to build up and so avoid wetland resources. Wetlands may add amenity value to residentially developed land, and would not greatly reduce the amount of higher density buildable land in the North Urban Area.

Social consequences (lost open space and views) would be adverse as a result of developing the wetland area, which could otherwise be used as open space for the residential development. Wetlands provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences. In this sense, conserved wetlands in higher density residential areas are especially valuable, since they are unusual and would be "used" by many more people.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water-based recreational opportunities. The social consequences of allowing full development over the wetland would mean that the human-related qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Higher Density Residential Development

Energy consequences of unrestricted residential development of wetlands are mixed. Again, assuming standard design practices, the results of building over the wetland could be more efficient use of residential land, which could prevent premature expansion of the regional UGB, higher urban densities, more efficient use of infrastructure, shorter travel distances and less out-of-direction travel. From a solar perspective, it is possible that vegetation from

forested wetlands could shade south-facing windows of houses, thus reducing solar access, although this is less likely with taller buildings. In summary, the adverse energy consequences could be significant, provided that developers choose, or County regulations required, the maximum density of development allowed under the ZDO.

On the negative side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational opportunities, thus reducing the need to drive for outdoor experiences. Thus, loss of wetland vegetation would have some adverse energy consequences.

6.4.3 Consequences of Limiting or Prohibiting Conflicting Higher Density Residential Development

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting (higher density residential) use.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in I.A.1 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting development on and near wetlands, or partially retained by prohibiting residential development on wetlands, and restricting residential development within the 100' impact area. Even with "full protection" of significant wetland resource sites, activities associated with residential development (pets, children, ATVs, run-off, etc.), which cannot be fully controlled by land use regulations, will probably degrade wetland values over time. Higher density residential development, because of higher population densities, in more likely than low density residential development to adversely affect the ecological integrity of adjoining wetlands.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be conserved.

Economic Consequences of Conserving the WRS

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. Often, impacts are less significant at the study area level than from the point of view of the individual property owner. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to property owner interests.

Study Area Level

At the study area level, the economic consequences of *avoiding* wetlands on high density residential properties without an Open Space overlay are minimal. In 1993, the North Urban Area included an estimated 230 acres of unrestricted MDR, MHDR, HDR and SHDR land area, of which an estimated six (6) acres (3 percent) are wetlands. Assuming an average gross density of 20 units per acre, there is the capacity for an additional 4,600 dwelling units. In the

worst case scenario, if all wetland acres were fully preserved, and *no development* were to occur on these six acres, then the North Urban Area could still accommodate 4,480 units. In this case, the North Urban Area portion of the 20-year regional UGB would have to expand less than one year earlier (2.6% of the higher density residential land supply) than otherwise to accommodate single-family residential housing needs.

The property owner costs in terms of lost land value are significant. The inability to fully use this valuable urban resource could cause financial hardships for the property owner, or make the difference in whether a development is successful or not.

The worst case scenario is unrealistic in that: it assumes *no* state or federal wetlands protection program; and (b) that all 10 inventoried higher density residential wetland acres will be fully protected, and finally (c) that the ZDO's minimum landscaping provisions will not be used to conserve wetlands. A more reasonable scenario would be to assume a reduction of about two percent of the housing units, that otherwise would have been constructed on MDR, MHDR, HDR and SHDR land within the North Urban Area, will not be constructed due to wetlands.

For larger properties of an acre or more, it is usually easier to avoid the wetland and meet ZDO standards. For smaller properties, this may be more difficult. However, wetlands often separate property ownerships. In many cases, wetlands are associated with streams, and may be in close proximity to an Open Space overlay. In such cases, wetland conservation has relatively minor consequences, because it is relatively simple to build on the front portion of the lot and to avoid the wetland.

Where the wetland is centrally located on a small property, the economic consequences are usually more severe, or where the wetland blocks all access to a property, the economic consequences are extremely adverse, and make it impossible to completely *avoid* the wetland. Such situations will be noted on ESEE analyses associated with individual properties. One method open to property owners to alleviate this adverse economic consequence is the variance process, which provides for modification of dimensional standards of the applicable zoning district to allow siting outside the wetland.

Developer Impact

From the developer's point of view, the local regulations would mean increased uncertainty and design costs, which may be passed on to the housing consumer. To the developer, the value of a conserving a wetland may be minimal, compared with developing additional housing units or amenity packages (landscaping, recreation, etc.) that would add rental or sales value to the units.

As noted above, it is less probable that all locally *significant* wetlands will be protected by state and federal standards anyway, because the case against *avoidance* can be made more credibly for higher density residential development.

Positive Economic Consequences

On the other hand, there are positive economic consequences associated with wetland conservation. First, many studies have demonstrated that wetlands can add value to developments --- both for neighbors and for purchasers of lots or units in the development. Conserving wetlands through thoughtful design could increase neighboring property values as well as the sales price or rental rates of housing units in new development.

Second, potential costs for storm water management, flood control and federally-mandated water quality improvement program may decrease if wetlands are not developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created through artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase if wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a positive economic value by providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is clearly spelled out in the ZDO, the uncertainty and delay costs could decrease for everyone involved.

Social Consequences of Conserving the WRS

The social consequences of conserving significant wetland resource sites would be mixed.

On the positive side, wetlands may add amenity value to residentially developed land, and would marginally reduce the amount of buildable land in this category. Social consequences (open space, views, undisturbed natural areas close to population centers) would be positive as a result of conserving the wetland area, which can be used as open space for the residential development. Wetlands provide educational opportunities for those living near them, which would be maintained. Wetlands also provide opportunities for urban quiet and solitude, which has positive social consequences.

On the negative side, housing costs could increase. Replacing lost land zoned for higher density housing may be extremely difficult, given probable neighborhood opposition.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be conserved through planned residential development and density transfer. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would retain the qualities which help make each wetland *significant*.

Energy Consequences of Conserving the WRS

Energy consequences of wetland conservation are also mixed. Wetlands could be conserved without major loss of housing unit potential, and with moderate impact on the regional UGB. High urban densities could be achieved, resulting in more efficient use of infrastructure, shorter travel distances, and reliance on less energy consumptive modes of travel.

While it is possible that vegetation from forested wetlands could shade south-facing windows of houses, development at this density is unlikely to be affected significantly by shade from wetland vegetation.

On the positive side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational opportunities, thus reducing the need to drive for outdoor experiences. In these ways, conservation of wetland vegetation would have additional positive energy consequences.

6.5 COMMERCIAL AND INDUSTRIAL SUPPLEMENTAL ANALYSIS

This supplemental ESEE analysis is concerned with conflicting commercial and industrial uses affecting significant wetland resource sites. Conflicting uses include all permitted or conditionally permitted uses under the Commercial (General, Retail, Office, Community and Neighborhood Commercial) and Industrial (General, Light and Business Park) CCCP designations. Accessory uses, such as parking lots, landscaping, storage areas, waste disposal and supporting public facilities (as opposed to project listed in the PFP) are also considered conflicting uses for the purposes of this analysis.

Category 3 *significant* wetland resource sites represent approximately 41 acres and 30 percent of the wetlands in the study area.

6.5.1 Regulatory Context

Some sites are already recognized by the CCCP with an Open Space overlay. However, the CCCP *defers* consideration of ESEE consequences until a resource site is actually threatened by development.[3]

Until recently, the ESEE consequences of commercial and industrial development affecting *any* wetland in an industrial and commercial areas were reviewed *on a case-by-case basis* prior to development. However, wetlands outside Open Space overlays had not yet been inventoried, or analyzed in accordance with the Goal 5 administrative rule.

Recent amendments to the ZDO removed local protection for wetlands outside the Open Space overlay. Wetlands outside of the Open Space overlay may still be regulated by the US Army Corps of Engineers and the Division of State Lands. The purpose of this analysis is to provide Clackamas County with factual information needed to resolve conflicts between commercial and industrial uses and significant wetland sites, whether or not they are "protected" by the Open Space overlay, and whether or not they are regulated by state and federal programs.

6.5.2 Consequences of Allowing Conflicting Commercial and Industrial Development

Environmental Consequences of Allowing Commercial and Industrial Development

The wetlands in this category should be considered as part of a much larger ecological system of urban wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the degree of human intrusion and its connection with stream corridors and other natural resources. Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge.

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[3] See ZDO 1011.04 *CONFLICT RESOLUTION/WETLANDS AND SIGNIFICANT NATURAL AREAS.*

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide improved fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Wetlands which are connected to other natural resources allow travel corridors for wildlife.

When industrial/commercial development (including buildings, roads and driveways, landscaping, storage, parking) replaces native vegetation, the value of the wetland for habitat decreases dramatically. (See Vegetation Removal Supplemental ESEE Analysis.) Industrial/commercial development in wetland areas does not necessarily eliminate all fish and wildlife habitat, but changes the habitat in a way that decreases biodiversity, because only more aggressive and adaptable species can survive under changed ecological circumstances.

Commercial/industrial development in wetlands replaces native vegetation with impervious surface area, and contributes to flooding, reduced groundwater recharge, and increased sediment and nutrient loading (from lawns, gardens, household wastes). The result is decreased water quantity and quality, and diminished fish and wildlife habitat. Industrial/commercial development usually poses a lesser of a threat to the ecological integrity of significant wetland resource sites than children, pets and recreational activities. However, commercial/industrial development does pose specific threats to wetlands, including garbage and littering, disposal of sewage and industrial wastes, runoff from large parking lots, use of fertilizers and pesticides, fences and other structures which limit wildlife access, noise and glare.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted commercial/industrial development. The SRI/Shapiro report includes specific measures ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of allowing full commercial/industrial development over the wetland would mean that the qualities which make each wetland *significant* would be lost.

Economic Consequences of Allowing Commercial and Industrial Development

The economic consequences of replacing significant wetland resource sites are different, depending on the level of analysis. For the property owner, the economic impacts of allowing the full industrial development of the site usually are extremely positive. If the wetland is developed, approximately 10^4 additional employees per acre of wetland could be provided for on a property. Assessor's records show that commercial land values vary widely. For example, Site B16 shows tax lot values from as low as $6,087 an acre to a high of $180,000 per acre. Industrial land values have a somewhat lesser range of values. Using Site B20 as an example, assessed values range from $46,750 to $130,000 per acre. It is unclear from the above what affect the presence of a wetland may have had on assessed values. What is clear is that full protection of wetlands located on commercial and industrial sites would result in considerable lost property value to property owners.

However, these costs needs to be balanced against the cost of off-site mitigation, which was estimated by the Division of State Lands at Technical Advisory Group sessions at approximately $80,000 to $120,000 an acre. Thus, the off-site mitigation costs (in the event that off-site mitigation were to be approved by DSL and the Army Corps) may be considerable.

Economic consequences vary considerably based on individual site conditions, as noted in the discussion of the economic consequences of conserving the wetland, below.

From the industrial or commercial developer's point of view, the lack of local regulations would mean decreased uncertainty and design costs. The costs of additional consultant time would be avoided, the thought and energy required to design the project may be reduced, and there would be less local government discretion and perhaps greater certainty in the review process.

On the other hand, there are a number of less obvious economic consequences that need to be considered. First, wetlands can add amenity value to developments -- especially business and campus industrial parks. It is less likely that conservation of wetlands would benefit standard commercial or industrial developments, except as a method of storm water control. Development over a wetland could have the effect of decreasing neighboring property values.

Second, local governments and property owners face potential increases in storm water management, flood control and federally-mandated water quality improvement costs as wetlands are developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created as sumps, or artificial detention and water quality ponds, at considerable private and public expense. Clackamas County and industrial/commercial property owners are facing major costs in meeting federal NPDES permitting requirements, costs which could increase wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a negative economic value by not providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is not clearly spelled out in the ZDO, the uncertainty and delay costs could increase for everyone involved.

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[4] See the Clackamas County Industrial Lands Study.

Social Consequences of Allowing Commercial and Industrial Development

The social consequences of allowing unrestricted commercial/industrial development of significant wetland resource sites would be mixed. On the positive side, needed employment opportunities and convenient shopping and service opportunities in the North Urban Area would be maintained. By maintaining the amount of buildable commercial/industrial land inside the regional Urban Growth Boundary, expansion of the UGB to farm and forest land might be delayed in other urban counties.

The social value of providing employment within the North Urban Area is significant. If employment, commerce and services are concentrated inside the existing regional UGB, commuter travel will be minimized, which has positive social impacts. Pollution will be reduced, there will be more disposal income for other consumer wants, productivity will increase and there will be more leisure time to spend on non-work/non-shopping activities. In addition, development costs might be reduced, assuming that the wetland would not be protected otherwise under state and federal regulations.

There are also negative social consequences. If development were to occur on wetlands covering commercial/industrial land, urban setting and water based recreational functions and values, among others, would be lost. Open space views for travellers along the Sunrise Corridor would be adversely affected. Workers would not have the advantage of open space views or places to spend off-time.

Wetlands usually add some amenity value to commercial/industrial developed land, and would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of developing the wetland area, which could otherwise be used as open space for the residential development. Wetlands provide educational opportunities for those working near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing full development over the wetland would mean that the qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Commercial and Industrial Development

Energy consequences of unrestricted commercial/industrial development of wetlands are also mixed. Assuming standard development practices, the results of building over the wetland could be more efficient use of commercial/industrial land, which could prevent premature expansion of the regional UGB, higher urban densities, more efficient use of infrastructure, shorter travel distances and less out-of-direction travel. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access. In summary, the adverse energy consequences could be significant.

On the negative side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational opportunities, thus reducing the need to drive for outdoor experiences. Thus, loss of wetland vegetation would have some adverse energy consequences.

6.5.3 Consequences of Limiting or Prohibiting Conflicting Commercial/Industrial Development

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting use -- in this case, commercial/industrial development.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in II.1 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting development on and near wetlands, or partially retained by prohibiting residential development on wetlands, and restricting commercial/industrial development within the 100' impact area. Even with "full protection" of significant wetland resource sites, activities associated with commercial/industrial development (increased human activity, run-off, toxic spills, noise, glare, trespass, pets, etc.), which cannot be fully controlled by land use regulations, will probably degrade wetland values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be conserved.

Economic Consequences of Conserving the WRS

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. Impacts are often different at the study area level than from the point of view of the individual property owner. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to property owner interests.

Study Area Level

At the study area level, the economic consequences of *avoiding* wetlands on commercial/industrial properties are significant. In 1993, the North Urban Area included an estimated 113 acres of unrestricted commercial land area, of which an estimated 2.3 acres (2 percent) are wetlands. More significantly, there are 652 acres of unrestricted industrial land, of which 44 acres (7 percent) are wetlands.

Assuming an average commercial employment-to-acre ratio of 30, there is the lost capacity for an additional 69 commercial jobs. Assuming an industrial employment-to-acre ratio of 10, there is the lost capacity to accommodate an additional 440 industrial sector jobs.

In the worst case scenario, if all wetland acres on commercially-zoned land were fully preserved, then the North Urban Area could still accommodate 3,325 new commercial jobs at 30 employees per acre. If all wetland acres on industrially-zoned land were fully preserved, then the North Urban Area could still accommodate 6,076 new industrial jobs at 10 employees per acre. In this unlikely case, the supply of industrial and commercial land within the North Urban Area portion of the 20-year regional UGB would be used up about one- to two years earlier than to accommodate commercial and industrial growth needs.[5]

Clackamas County has also invested considerable public dollars in providing infrastructure (transportation, sewer, water, storm drainage, utilities) to commercial and industrial land in the North Urban Area. The return on public investment will be reduced in proportion to the amount of industrial land which cannot be developed due to wetland or other constraints.

At the regional level, the economic impacts are less significant. Based on METRO estimates, the metropolitan urban growth area includes enough vacant industrial land to meet long-term regional employment needs. Although no inventoried wetlands are likely to be regulated by state and federal agencies in any event. However, *local* regulatory costs would likely increase -- both for the developer and the County.

The worst case scenario described above is somewhat unrealistic, in that it assumes: (a) *no* state or federal wetlands protection program; and (b) that all 46 acres of inventoried wetlands will be fully protected, when this study has determined that only nine (9) wetlands, 41 acres, are significant. Thus, a more reasonable scenario would be to assume that about 500 which otherwise would have occurred on land within the North Urban Area, will be located elsewhere due to local wetlands conservation programs.

Location of Wetland on Property

This issue will be examined more closely in the site-specific ESEE analysis. In general, wetlands often serve as effective boundaries separating property ownerships. In many cases, wetlands are associated with streams, and may be in close proximity to an Open Space overlay. In such cases, wetland conservation has a less adverse economic impact. In situations where the wetland covers most of a small property, or blocks all access to a property, the economic consequences are extremely adverse, and make it impossible to completely avoid the wetland. Such situations will be noted on ESEE analyses associated with individual properties.

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[5] In 1987, Clackamas County conducted a study to determine the adequacy of its industrial and commercial land supply. The *Clackamas County Target Industries Study* (1987), documents an existing shortage of commercial and industrial land within the Clackamas County portion of the regional UGB. Using 1987 data, it was concluded that the Unincorporated East Urban Area *needs* 1,150 industrial acres, and 961 commercial acres, through the Year 2010. Yet there are only 802 industrial acres, and 772 commercial acres, available. Thus, even discounting the effects of wetlands on the industrial lands supply, the County cannot meet its long-term industrial and commercial land needs within the existing UGB.

These long-term shortages are compounded by topographical and service constraints, which make it difficult for Clackamas County to allocated new industrial and commercial sites outside the present UGB.

Unlike residential properties, commercial and industrial properties often do not have required setbacks, unless they abut residential land. One method open to property owners to alleviate adverse economic consequences resulting from wetlands is the variance process, which would allow dimensional standards of the applicable zoning district to be modified to allow siting outside the wetland.

Developer Impact

From the developer's point of view, the local wetland conservation regulations could mean increased uncertainty and design costs. It is often easier and less time-consuming to develop over a wetland, rather than around it, especially where large, rectangular buildings are required. The costs of additional consultant time would increase, as would the level of thought and energy required to design the project. There could be greater local government discretion and perhaps greater uncertainty in the review process.

However, as noted above, it is highly probable that all locally *significant* wetlands will be regulated by state and federal standards anyway, so that local regulation does not necessarily pose an additional hurdle for the land developer.

Positive Economic Consequences of WRC Conservation

On the other hand, there are a positive economic consequences associated with wetland conservation. First, many studies have demonstrated that wetlands can add value to developments -- both for neighbors and for commercial/industrial developments. Conserving wetlands through thoughtful design probably will increase neighboring property values and may, depending on the nature of the proposed commercial/industrial use, increase lease or sales price of space or lots.

Second, potential costs for storm water management, flood control and federally-mandated water quality improvement program may decrease if wetlands are not developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created as sumps, or artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase if wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they underestimated urban run-off rates.

Third, there may be a positive economic value by providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is clearly spelled out in the ZDO, the uncertainty and delay costs could decrease for everyone involved.

Social Consequences of Conserving the WRS

The social consequences of allowing conserving significant wetland resource sites would be mixed. Unlike residential development, however, the County's planned unit development process is not a major mitigation tool in terms of lost jobs.

In order to conserve significant wetland resource sites that are zoned for industrial and commercial uses, the opportunity for jobs close to urban housing is diminished. If all significant wetland resource sites are conserved, then approximately 46 acres and 1100 jobs would be displaced to agricultural and forest land outside the existing UGB. The importance of close-in employment opportunities needs to be balanced against the clear benefits of wetland conservation.

On the positive side, wetlands may add some amenity value to developed land. The social consequences (open space and views) would be positive as a result of conserving the significant wetland areas, which can be used as open space for the employees and the general shopping public. Wetlands provide educational opportunities for those working near them, which would be maintained. Wetlands also provide opportunities for urban quiet and solitude, which has positive social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be conserved through planned residential development and density transfer. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would retain the qualities which help make each wetland *significant*. Out-of-direction travel to avoid the wetland, and associated pollution and traffic impacts might be slightly increased, although thoughtful design can usually avoid this problem.

Energy Consequences of Conserving the WRS

Energy consequences of wetland conservation are also mixed, but in this case again are largely negative. Unlike housing, all wetlands cannot be preserved on industrial land without significant impacts on the regional UGB. Urban jobs will be displaced to more distant areas, increasing travel time, congestion, and stress. Especially along the Sunrise and I-205 Corridors, where transportation access is a key locational factor, the energy consequences of wetland conservation are significant and adverse.

It is less likely that vegetation from forested wetlands would shade large industrial or commercial users, or significantly impair solar access.

However, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational opportunities, thus reducing the need to drive for outdoor experiences. Thus, conservation of wetland vegetation would have additional positive energy consequences.

6.6 INSTITUTIONAL DEVELOPMENT: PUBLIC AND SEMI-PUBLIC PARK AND RECREATIONAL AREAS

Category 3A[6] includes public and semi-public park and recreational facilities (*e.g.*, school and church *grounds*, public park and recreational facilities such as ball parks, passive parks, golf courses and cemeteries), where conflicts with WRS functions and values are less obvious. The use of a wetland for a public park is often not considered to be a "conflicting use." However, there are trade-offs between improved park land and public use on the one hand, and full preservation of natural wetland functions and values on the other. It is important that this process be used to determine which WRSs should be retained in passive recreational use, and which should be managed for active recreational use -- *i.e.*, as developed parks or athletic fields.

This supplemental ESEE analysis is concerned with conflicting public and semi-public open space uses affecting significant WRSs. Since public and semi-public open space uses are permitted to some degree in residential, commercial and industrial zoning districts, virtually all wetland resource sites *potentially* could be considered under this conflicting use category. As noted below, *conflicting* open space uses (*i.e.*, developed parks and natural areas) are permitted in the *Open Space Management* zoning district.

This supplemental ESEE analysis recognizes differences among varying levels of public and semi-public open space development. Public and semi-public institutions which manage open space typically are organized to further specific public values. Public and semi-public funds usually are expended to maximize organizational values, rather than maximizing profit. Thus, economic impacts (measured in terms of allocation of dollars for identified public purposes) vary depending on the type of open space use, and the core values of affected public and semi-public agencies. If open space management values coincide or overlap with conservation of wetland resource sites, then the economic and social consequences of such conservation would be positive. The reverse is also true. The ESEE analysis for each *individual* WRS will address the special characteristics of that site in relation to the manager's interests, to the extent that these interests are articulated in the public review process.

6.6.1 Regulatory Context

Various types of open space improvements are allowed, either outright or conditionally, in most residential, commercial and industrial zoning districts. (See appendices describing conflicting uses associated with residential, commercial and industrial zoning.) For example, the ULDR zoning districts recognize public parks as a permitted use, and specify that (ZDO 301.03):

> *Public parks, playgrounds, recreational and community buildings and grounds, public golf courses, tennis courts, and similar recreational uses...* [are permitted and] *may be designated Open Space Management under Section 702 when the criteria in Section 1011 are satisfied.*

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[6] Category 3 includes a broad range of park and recreational uses, including parks, churches, child care centers, nursing homes and hospitals. Open space, park and recreational uses that typically do not involve the construction of large impervious surface areas are considered under Category 3A. In contrast, buildings, accessory parking lots and other development which create large *impervious* surface areas is considered under Category 3A. For example, a school or church building and parking lot would be considered under Category 3A, while the soccer fields or open space associated with a school or church would be considered under Category 3B.

Section 702 (OSM) combines parks, public and private recreational areas, cemeteries and "unique or distinctive natural areas" under the OSM zoning district, without recognizing their inherent conflicts. Thus, virtually all WRSs are subject, potentially, to conflicting uses associated with open space development.

Playgrounds, athletic fields, recreational trails, landscaped open areas, golf courses, cemeteries, and private service recreational uses are permitted or conditionally permitted in most residential zoning districts, and in the OSM district (ZDO 301, 302-304, 313, 702). Where open space "improvements" are proposed on residentially-zoned land with an *Open Space* overlay, land use conflicts *may not* have been fully resolved in favor of affected WRSs, despite the provisions of ZDO 1011.03.[7] Open space "improvements" are considered "open space uses" in their respective residential, commercial or industrial districts, despite their conflict with identified WRS functions and values. Even where there is already an *Open Space* overlay, implemented by the *Open Space Management* zoning district, it is unclear which competing open space management uses will prevail.

The purpose of this supplemental ESEE analysis, when considered with site-specific ESEE analyses, is to provide Clackamas County with factual information needed to resolve conflicts between conflicting open space uses and inventoried WRS functions and values. It should be remembered that this analysis will be used to determine whether and how to regulate WRSs *locally* -- regardless of whether they are regulated by state and federal programs.

6.6.2 Consequences of Allowing Conflicting Open Space Development

Environmental Consequences of Allowing Open Space Development

Public and semi-public open space uses have *environmental impacts* on WRSs which are distinct from typical land development impacts. Park and open space developments may occur in areas which have an *Open Space* overlay. For example, WRS A1 is located primarily on a publicly-owned school site. The school district may wish to use WRS A1 as a soccer field, which conflicts with the WRS's *natural resource* values. However, this site probably was designated *Resource Protection* by virtue of its public ownership, not because the wetland on the property is shaped like a "T".

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[7] Consider the potentially conflicting purposes of ZDO 1011.01:

B. To protect sensitive or hazardous open space resources from incompatible development.

C. To provide land which meets the open space and recreation needs of the people.

ZDO 1011.03.A specifically provides that *"Site planning and development shall avoid disturbance of identified open space resources."* ZDO 1011.02.B.1.f defines *"High priority" open space* to include *Wetlands*. Among the methods for meeting the open space requirements of ZDO 1011 are public dedication or maintenance by a homeowners' association (ZDO 1011.03.E). What is unclear is how dedication of open space will guarantee that the open space will be managed exclusively to maximize wetland resource values. It is also unclear whether *open space* "improvements" necessarily fall under the rubric of "site planning and development."

The *wetlands* in this supplemental conflicting use category should be considered as part of a much larger ecological system of natural wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the degree of human intrusion and its connection with stream corridors and other natural resources. Public use of WRSs, by definition, increases the degree of human intrusion. In urban areas such intrusion is to be expected. The policy question is to what degree should public access and park improvements be limited.

Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge. Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Naturally vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide improved fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Wetlands which are connected to other natural resources allow travel corridors for wildlife.

When open space development (including developed recreational areas, recreational trails, playgrounds, athletic fields, picnic areas, and the like) replaces native vegetation, the value of the wetland for fish and wildlife habitat decreases. (See also Vegetation Removal Supplemental ESEE Analysis.) Open space development in wetland areas does not necessarily eliminate all fish and wildlife habitat, but changes the habitat in a way that decreases biodiversity, because only more aggressive and adaptable species can survive under changed ecological circumstances.

Open space development may threaten the ecological integrity of WRSs by providing public access for large numbers of people and by encouraging recreational activities in and around the WRS. Open space development also increases the likelihood of garbage and littering, erosion, use of fertilizers and pesticides, construction of fences and other structures which may limit wildlife access, and increased noise and glare.
The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted open space development. The SRI/Shapiro report includes specific measures regarding ecological integrity, wetland wildlife habitat and nutrient attenuation. The environmental consequences of allowing full open space development over the wetland would mean that the qualities which make each wetland *significant* would be compromised.

Economic Consequences of Allowing Open Space Development

The economic consequences of replacing or modifying WRSs may be different where the "developer" is a public and semi-public agency. As a result of Ballot Measure 5 and other factors, public agencies face increasingly limited budgets, which means that priorities must be set and trade-offs made. Thus, while a school or park district might prefer to have both wetlands and soccer fields, budgetary restrictions limit the financial capacity of such agencies to accomplish both objectives.

Churches and other semi-public organizations often face similar budgetary constraints. It is not always possible to purchase additional land to allow both the conflicting open space use (*e.g.*, a ball field) and conserve the wetland. An economic consequence of conserving a WRS may be that a preferred open space development cannot occur. However, in some cases, open space development may be re-designed around the WRS, while meeting many of the design objectives of the project. The wetland can also be used for passive recreational use (carefully constructed trails, viewing areas, picnic grounds, etc.), without significant environmental impact. It is important that open space managers present development plans affecting WRS properties, to be considered in the site-specific ESEE analysis.

For public and semi-public organizations, the economic impacts of allowing the full open space development of the site may be positive. Like privately-held property, to the extent that wetlands may be filled to allow open space development, public and semi-public organizations may save money.

However, these costs need to be balanced against the cost of off-site mitigation, which was estimated by the Division of State Lands at Technical Advisory Committee (TAC) sessions at approximately $80,000 to $120,000 an acre. Thus, the off-site mitigation costs (in the event that off-site mitigation were to be approved by DSL and the Army Corps) may be considerable.

Economic consequences vary considerably based on individual site conditions, as noted in the discussion of the economic consequences of conserving the wetland, below. From the open space manager's point of view, fewer local regulations could mean decreased uncertainty and design costs. The costs of additional consultant time might be avoided, the thought and energy required to design the project may be reduced, and there would be less local government discretion and perhaps greater certainty in the review process.

On the other hand, there are a number of less obvious economic consequences that need to be considered. First, wetlands can add amenity value to developments, even if they are not developed open uses such as athletic fields or parks. Wetland conservation can also serve as a method of storm water control, thus reducing development costs. "Improvements" of WRSs could have the effect of decreasing neighboring property values, or removing a valuable natural buffer from neighboring residential uses.

Second, there may be a negative economic value by not providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is not clearly spelled out in the ZDO, the uncertainty and delay costs could increase for everyone involved. By having clear and objective standards, long-term wetland conservation costs can be considered in capital improvement programs.

Social Consequences of Allowing Open Space Development

The social consequences of allowing open space development of significant wetland resource sites are mixed. On the positive side, public and semi-public land would be used "efficiently," thus reducing the need for pre-mature expansion of the regional Urban Growth Boundary. For example, if a soccer field is a high priority at a particular school site, then there may be no reasonable alternative to allowing development of the athletic field at that location. Scarce public and semi-public financial resources could be prevented from meeting other socially-redeeming objectives, such as active or organized recreation.

Where social *values* are concerned, public and semi-public agencies may consider wetland conservation a relatively low priority, compared with other open space values. If organized open space opportunities (athletic fields) are available locally, commuter travel will be minimized, which has positive social impacts. Air pollution may also be reduced. In addition, public development costs might be reduced, assuming that the wetland would not be protected otherwise under state and federal regulations.

There are also negative social consequences of developing WRSs for more active open space use. If development were to occur on wetlands covering open space land, urban setting and water based recreational functions and values, among others, would be compromised. Open space views could be adversely affected. Public and semi-public workers would not have the advantage of open space views or places to spend off-time. On the other hand, they could have attractive views of developed, park-like open space.

Wetland conservation does not necessarily conflict with the mission statements of public and semi-public agencies. Wetland conservation has become an increasing important social and educational value. For parks and school districts especially, a well-conserved wetland on school or park property offers an unusual opportunity for educating students and the general public regarding natural systems. The immediate availability of an on-site WRS can engender interest in natural systems, and provide a living laboratory for student ecology projects.

Wetlands usually add some amenity value to neighboring developed properties, and may not significantly reduce the amount of developed park or recreational land. Social consequences (lost *natural* open space and views) could be adverse as a result of "improving" the wetland area, which could otherwise be used as more active open space. However, in contrast to active parks, wetlands provide educational opportunities for those living and working near them. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted open space development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with open space development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing park and recreational "improvements" over the wetland would mean that many of the qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Open Space Development

Energy consequences of open space development over or into WRSs are mixed. The results of "improving" wetlands could be more active use of open space land, which may be in more public demand than conserving the WRS in its natural condition. If the desired athletic fields or golf courses requires an urban location, the result could be shorter travel distances and less out-of-direction travel. From a solar perspective, it is possible that removing vegetation from forested wetlands would allow sunshine on the south-facing windows of businesses and houses, thus improving solar access. Thus, there may be some positive energy consequences of developing the WRS for active recreational use.

On the negative side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational and educational opportunities, thus reducing the need to drive for outdoor experiences. Thus, loss of wetland vegetation would have some adverse energy consequences.

6.6.3 Consequences of Limiting or Prohibiting Conflicting Open Space Development

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting use -- in this case, open space development.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in 6.6.2 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting development on and near wetlands, or partially retained by prohibiting residential development on wetlands, and restricting open space development within the 100' impact area. Even with "full protection" of WRSs, activities associated with open space development (increased human activity, introduced landscaping, noise, glare, trespass, vandalism, etc.), which cannot be fully controlled by land use regulations, will probably degrade wetland resource values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be maintained.

Economic Consequences of Conserving the WRS

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. This analysis recognizes that conserving wetlands means that otherwise developable park and recreation property may become *un*developable, which may have a direct impact on organizational budgets. On the other hand, institutions typically are organized to further specific public values. Although land development costs are certainly a concern, public and semi-public funds are expended to maximize these values, rather than maximizing profit.

Thus, economic impacts (allocation of dollars for public purposes) vary depending on the type of open space use, and the specific values of affected public and semi-public agencies. If these organizational values coincide or overlap with conservation of wetland resource sites, then the economic consequences of such conservation would be positive. The reverse is also true. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to the open space property owner interests, to the extent that these interests are articulated in the public review process.

From the County's perspective, considerable public dollars have been invested in providing infrastructure (transportation, sewer, water, storm drainage, utilities) to open space land in the North Urban Area. The return on public investment will be reduced in proportion to the amount of open space land which cannot be developed for more active recreational use, due to wetland or other constraints.

Location of Wetland on Property

This issue will be examined more closely in the site-specific ESEE analysis. In situations where the wetland covers a large portion of a property, or blocks all access to a property, the economic consequences of not being able to use the wetland for active recreational use may be extremely adverse, and may make it impossible to completely avoid the wetland. Such situations will be noted on ESEE analyses associated with individual properties.

Open Space Developer Impact

From the open space manager's point of view, the local wetland conservation regulations could mean increased uncertainty and design costs. It is often easier and less time-consuming to develop over a wetland, rather than around it, especially where athletic fields are required. The costs of additional consultant time would increase, as would the level of thought and energy required to design the project. There could be greater local government discretion and perhaps greater uncertainty in the review process.

While it is highly probable that all locally *significant* wetlands will be regulated by state and federal standards anyway, state and federal regulations typically do not restrict public use in and around WRS, or removal of native vegetation.

Positive Economic Consequences of WRS Conservation

There are a positive economic consequences associated with wetland conservation. First, many studies have demonstrated that wetlands can add value to developments -- both for neighbors and for open space developments. Conserving wetlands through thoughtful design probably will increase neighboring property values and may, depending on the nature of the proposed open space use, increase amenity value. On the other hand, "improved" open space can have the same, or greater, positive impact.

Second, potential costs for storm water management, flood control and federally-mandated water quality improvement program may decrease if wetlands are not developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created as sumps, or artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting

federal NPDES permitting requirements, costs which could increase wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates. On the other hand, it is possible to develop parks or athletic fields so as to retain flood control qualities.

Third, there may be a positive economic value by providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is clearly spelled out in the ZDO, the uncertainty and delay costs could decrease for everyone involved.

Social Consequences of Conserving the WRS

The social consequences of conserving WRSs depends primarily on the values of the affected organization. On the one hand, public and semi-public land would be used *less* efficiently, thus increasing the need for pre-mature expansion of the regional Urban Growth Boundary. Scarce public and semi-public financial resources could be directed away from meeting other socially-redeeming objectives, such as, active or organized recreation. Where social *values* are concerned, public and semi-public agencies may consider wetland conservation a relatively low priority, compared with their core mission.

If active recreational opportunities are dispersed outside the existing regional UGB, commuter travel may increase, which has negative social impacts. Air pollution may be increased commensurately. In addition, public development costs may be increased, assuming that the wetland would not be protected otherwise under state and federal regulations.

There are also positive social consequences of retaining WRSs as natural areas. If development were to occur on wetlands covering open space land, urban setting, educational functions and values, among others, would be compromised. Natural area views would be positively affected. Public and semi-public workers would have the advantage of natural wetland views or places to spend off-time.

Wetland conservation need not conflict with the missions of public and semi-public agencies. Wetland conservation has become an increasing important social and educational value. For parks and school districts especially, a well-conserved wetland on school or park property offers an unusual opportunity for educating students and the general public regarding natural systems. The immediate availability of an on-site WRS can engender interest in natural systems, and provide a living laboratory for student ecology projects.

Wetlands usually add some amenity value to neighboring developed land, and may not significantly reduce the amount of buildable land. Social consequences (natural open space and views) would be positive as a result of conserving the wetland area, which would be used as open space for the open space and neighboring residential or business development. Wetlands provide educational opportunities for those living and working near them, which would be maintained. Wetlands also provide opportunities for urban quiet and solitude, which has positive social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with open space development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would mean that the qualities which help make each wetland *significant* would be maintained.

Energy Consequences of Conserving the WRS

The energy consequences of conserving the WRS are not significant. The analysis of the energy consequences of allowing conflicting open space uses, conversely applied, adequately describes the consequences of conserving the WRS.

6.7 INSTITUTIONAL DEVELOPMENT: PUBLIC AND SEMI-PUBLIC BUILDINGS AND PARKING AREAS

This category includes a broad range of community and public uses, such as schools, developed parks, churches, child care centers, nursing homes and hospitals. Open space, park and recreational uses that typically do not involve the construction of large impervious surface areas are considered under Category 3A. In contrast, buildings, accessory parking lots and other development which create large *impervious* surface areas is considered under **Category 3B**. For example, soccer fields or open space associated with a school or church would be considered under Category 3A, while a school or church building and parking lot would be considered under Category 3B.

This supplemental ESEE analysis is concerned with conflicting public and semi-public development affecting significant WRSs. Since public and semi-public uses are permitted to some degree in residential, commercial and industrial zoning districts, virtually all wetland resource sites *potentially* could be considered under this conflicting use category.

This supplemental ESEE analysis recognizes differences between private organizations on the one hand, and public and semi-public organizations on the other. Institutions typically are organized to further specific public values. Although land development costs are certainly a concern, public and semi-public funds are expended to maximize these organizational values, rather than maximizing profit. Thus, economic impacts (measured in terms of allocation of dollars for identified public purposes) vary depending on the type of institutional use, and the core values of affected public and semi-public agencies. If institutional values coincide or overlap with conservation of wetland resource sites, then the economic and social consequences of such conservation would be positive. The reverse is also true. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to the institutional property owner's interests, to the extent that these interests are articulated in the public review process.

6.7.1 Regulatory Context

Various types of institutional developments are allowed, either outright or conditionally, in most residential, commercial and industrial zoning districts. (See appendices describing conflicting uses associated with residential, commercial and industrial zoning.) Thus, virtually all WRSs are subject, potentially, to institutional conflicting uses.

Churches, schools, day care facilities, hospitals, cemeteries and crematoria, nursing homes, service recreational uses, sanitary landfills, playgrounds, tennis courts, and recreational buildings are permitted or conditionally permitted in most residential zoning districts (ZDO 301, 302-304, 313). Where institutional developments are proposed on residentially-zoned land with an *Open Space* overlay, land use conflicts have already been resolved in favor of affected significant wetland resource sites. (See Supplemental ESEE Analysis 1A and ZDO 1011.03.) Thus, institutional buildings and accessory uses such as parking and landscaped areas are considered "residential uses" in their respective residential zones, and must *avoid* significant WRSs where there is already an *Open Space* overlay.

However, where residentially-zoned WRSs are not recognized by an *Open Space* overlay, an ESEE analysis is required *before* an *Open Space - Resource Protection* overlay may be applied. Recent amendments to the ZDO removed local protection for wetlands outside the *Open Space* overlay.

Institutional conflicts involving commercially- and industrially-zoned sites have not been resolved. Even where WRSs are already recognized by the CCCP with an *Open Space* overlay, the CCCP *defers* consideration of ESEE consequences until a resource site is actually threatened by development. (See also ZDO 1011.03.B and C.) Prior to this study, the ESEE consequences of institutional development affecting *any* wetland in an industrial and commercial areas were reviewed *on a case-by-case basis* prior to development. WRSs outside Open Space overlays had not yet been inventoried, or analyzed in accordance with the Goal 5 administrative rule.

The purpose of this supplemental ESEE analysis, when considered with site-specific ESEE analyses, is to provide Clackamas County with factual information needed to resolve conflicts between institutional uses and WRSs outside of residentially-zoned *Open Space* areas. It should be remembered that this analysis will be used to determine whether and how to regulate of WRSs *locally* -- regardless of whether they are regulated by state and federal programs.

6.7.2 Consequences of Allowing Conflicting Institutional Development

Environmental Consequences of Allowing Institutional Development

Public and semi-public uses have *environmental impacts* on WRSs which often are comparable to commercial-industrial or medium-to-high density residential uses, because institutional uses typically:

serve or attract large numbers of people
have large parking lots
have large impervious surface areas
are landscaped with introduced rather than native plant species
require the drainage and conversion of on-site wetlands

However, unlike multiple family, commercial and industrial development, institutional uses are most frequently sited in ULDR sites. Since most of the WRSs in North Urban Clackamas County are located in low density residential zones, it is especially important to consider the ESEE consequences of allowing institutional uses in ULDR zoning districts that do not have an *Open Space* overlay.

The wetlands in this supplemental conflicting use category should be considered as part of a much larger ecological system of urban wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the degree of human intrusion and its connection with stream corridors and other natural resources. Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge.

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide improve fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Wetlands which are connected to other natural resources allow travel corridors for wildlife.

When institutional development (including buildings, roads, developed recreational areas, driveways, storage, parking) replaces native vegetation, the value of the wetland for habitat decreases dramatically. (See Vegetation Removal Supplemental ESEE Analysis.) Institutional development in wetland areas does not necessarily eliminate all fish and wildlife habitat, but changes the habitat in a way that decreases biodiversity, because only more aggressive and adaptable species can survive under changed ecological circumstances. Institutional development in wetlands replaces native vegetation with impervious surface area, and contributes to flooding, reduced groundwater recharge, and increased sediment and nutrient loading (from landscaped areas). The result is decreased water quantity and quality, and diminished fish and wildlife habitat.

Institutional development usually threatens the ecological integrity of WRSs by providing public access for large numbers of people, often children, and by encouraging recreational activities in and around the WRS. Institutional development also increases the likelihood of garbage and littering, runoff from large parking lots, use of fertilizers and pesticides, fences and other structures which limit wildlife access, noise and glare.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted institutional development. The SRI/Shapiro report includes specific measures regarding ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of allowing full institutional development over the wetland would mean that the qualities which make each wetland *significant* would be lost.

Economic Consequences of Allowing Institutional Development

The economic consequences of replacing or modifying WRSs are different where the "developer" is a public and semi-public agency. As a result of Ballot Measure 5 and other factors, public agencies face increasingly limited budgets, which means that priorities must be set and trade-offs made. Thus, while a school or park district might prefer to have both wetlands and tennis courts, budgetary restrictions limit the financial capacity of such agencies to accomplish both objectives. Residential land within UGBs is currently valued at $30-40,000 per acre, and must be used efficiently by public and semi-public agencies.

Churches and other semi-public organizations often face similar budgetary constraints. It is not always possible to purchase additional land to allow both the conflicting institutional use and conserve the wetland. An economic consequence of conserving a WRS may be that a planned institutional development cannot occur. However, in most cases, institutional developments may re-designed around the WRS, while meeting many of the design objectives of the project. It is important that institutional land owners present development plans affecting WRS properties, to be considered in the site-specific ESEE analysis.

For public and semi-public organizations, the economic impacts of allowing full development of the site usually are positive. Like privately-held property, to the extent that wetlands may be filled to allow full development, public and semi-public organizations will save money. There may also be employment implications for conserving WRSs *versus* allowing conflicting institutional development. To the extent the limited budgetary resources must be directed to wetland conservation, it is possible that staff levels will be reduced commensurately.

However, these costs need to be balanced against the cost of off-site mitigation, which was estimated by the Division of State Lands at Technical Advisory Committee (TAC) sessions at approximately $80,000 to $120,000 an acre. Thus, the off-site mitigation costs (in the event that off-site mitigation were to be approved by DSL and the Army Corps) may be considerable.

Economic consequences vary considerably based on individual site conditions, as noted in the discussion of the economic consequences of conserving the wetland, below. From the institutional developer's point of view, fewer local regulations could mean decreased uncertainty and design costs. The costs of additional consultant time might be avoided, the thought and energy required to design the project may be reduced, and there would be less local government discretion and perhaps greater certainty in the review process.

On the other hand, there are a number of less obvious economic consequences that need to be considered. First, wetlands can add amenity value to developments -- especially institutional uses such as schools and parks. Wetland conservation can also serve as a method of storm water control, thus reducing development costs. Development over a wetland could have the effect of decreasing neighboring property values, or removing a valuable buffer from neighboring residential uses.

Second, local governments and property owners face potential increases in storm water management, flood control and federally-mandated water quality improvement costs as wetlands are developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created as sumps, or artificial detention and water quality ponds, at considerable private and public expense. Clackamas County and institutional property owners are facing major costs in meeting federal NPDES permitting requirements, costs which could increase wetland water quality functions

are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a negative economic value by not providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is not clearly spelled out in the ZDO, the uncertainty and delay costs could increase for everyone involved. By having clear and objective standards, long-term wetland conservation costs can be considered in capital improvement programs.

Social Consequences of Allowing Institutional Development

The social consequences of allowing unrestricted institutional development of significant wetland resource sites would be mixed. On the positive side, public and semi-public land would be used efficiently, thus reducing the need for premature expansion of the regional Urban Growth Boundary. Scarce public and semi-public financial resources could be applied to meet other socially-redeeming objectives, such as education, active or organized recreation, personnel, meeting indoor space needs, etc.

Where social *values* are concerned, public and semi-public agencies may consider wetland conservation a relatively low priority, compared with their core mission. The social value of providing institutional employment within the North Urban Area is also significant. If public and semi-public employment is concentrated inside the existing regional UGB, commuter travel will be minimized, which has positive social impacts. Pollution will be reduced, and there will be more disposal income for other consumer wants, productivity will increase and there will be more leisure time to spend on non-work/non-shopping activities. In addition, public development costs might be reduced, assuming that the wetland would not be protected otherwise under state and federal regulations.

There are also negative social consequences of developing WRSs for institutional use. If development were to occur on wetlands covering institutional land, urban setting and water based recreational functions and values, among others, would be lost. Open space views would be adversely affected. Public and semi-public workers would not have the advantage of open space views or places to spend off-time.

Wetland conservation does not necessarily conflict with the mission statements of public and semi-public agencies. Wetland conservation has become an increasingly important social and educational value. For parks and school districts especially, a well-conserved wetland on school or park property offers an unusual opportunity for educating students and the general public regarding natural systems. The immediate availability of an on-site WRS can engender interest in natural systems, and provide a living laboratory for student ecology projects.

Wetlands usually add some amenity value to institutionally-developed land, and may not significantly reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of developing the wetland area, which could otherwise be used as open space for the institutional and neighboring residential or business development. Wetlands provide educational opportunities for those living and working near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted institutional development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with institutional development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing full development over the wetland would mean that the qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Institutional Development

Energy consequences of unrestricted institutional development of wetlands are also mixed. Assuming standard development practices, the results of building over the wetland could be more efficient use of institutional land, which could prevent premature expansion of the region UGB, higher urban densities, more efficient use of infrastructure, shorter travel distances and less out-of-direction travel. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access. In summary, the adverse energy consequences could be significant.

On the negative side, wetland vegetation has a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local recreational and educational opportunities, thus reducing the need to drive for outdoor experiences. Thus, loss of wetland vegetation would have some adverse energy consequences.

6.7.3 Consequences of Limiting or Prohibiting Conflicting Institutional Development

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting use -- in this case, institutional development.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in 6.7.2 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting development on and near wetlands, or partially retained by prohibiting residential development on wetlands, and restricting institutional development within the 100' impact area. Even with "full protection" of significant wetland resource sites, activities associated with institutional development (increased human activity, run-off, noise, glare, trespass, vandalism, etc.), which cannot be fully controlled by land use regulations, will probably degrade wetland values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be maintained.

Economic Consequences of Conserving the WRS

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. This analysis recognizes that conserving wetlands means that otherwise developable property may become *un*developable, which has a direct

impact on organizational budgets. On the other hand, institutions typically are organized to further specific public values. Although land development costs are certainly a concern, public and semi-public funds are expended to maximize these values, rather than maximizing profit.

Thus, economic impacts (allocation of dollars for public purposes) vary depending on the type of institutional use, and the specific values of affected public and semi-public agencies. If these organizational values coincide or overlap with conservation of wetland resource sites, then the economic consequences of such conservation would be positive. The reverse is also true. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to the institutional property owner interests, to the extent that these interests are articulated in the public review process.

From the County's perspective, considerable public dollars have been invested in providing infrastructure (transportation, sewer, water, storm drainage, utilities) to institutional land in the North Urban Area. The return on public investment will be reduced in proportion to the amount of institutional land which cannot be developed due to wetland or other constraints.

Location of Wetland on Property

This issue will be examined more closely in the site-specific ESEE analysis. In general, wetlands serve as effective boundaries separating property ownerships. In many cases, wetlands are associated with streams, and may be in close proximity to an *Open Space* overlay. In such cases, wetland conservation has a lesser adverse economic impact. In situations where the wetland covers most of a small institutional property, or blocks all access to a property, the economic consequences are extremely adverse, and make it impossible to completely avoid the wetland. Such situations will be noted on ESEE analyses associated with individual properties. One method open to institutional property owners to alleviate adverse economic consequences resulting from wetlands is the variance process, which would allow dimensional standards of the applicable zoning district to be modified to allow siting outside the wetland.

Institutional Developer Impact

From the institutional developer's point of view, the local wetland conservation regulations could mean increased uncertainty and design costs. It is often easier and less time-consuming to develop over a wetland, rather than around it, especially where large, institutional buildings and parking lots are required. The costs of additional consultant time would increase, as would the level of thought and energy required to design the project. There could be greater local government discretion and perhaps greater uncertainty in the review process.

However, as noted above, it is highly probable that all locally *significant* wetlands will be regulated by state and federal standards anyway, so that local regulation does not necessarily pose an additional hurdle for the land developer.

Positive Economic Consequences of WRS Conservation

There are positive economic consequences associated with wetland conservation. First, many studies have demonstrated that wetlands can add value to developments -- both for neighbors and for institutional developments. Conserving wetlands through thoughtful design probably will increase neighboring property values and may, depending on the nature of the proposed institutional use, increase amenity value.

Second, potential costs for storm water management, flood control and federally-mandated water quality improvement program may decrease if wetlands are not developed. Wetlands should be viewed as part of the storm water management system; often, when wetlands are destroyed, their functions must be re-created as sumps, or artificial detention and water quality ponds, at considerable public expense. Clackamas County is facing major costs in meeting federal NPDES permitting requirements, costs which could increase wetland water quality functions are lost. Flood insurance rates may also increase in the future, based on flood studies that may have to be revised because they under-estimated urban run-off rates.

Third, there may be a positive economic value by providing a clear and objective *local* process for resolving development/wetland conflicts. If the local, state and federal review process is clearly spelled out in the ZDO, the uncertainty and delay costs could decrease for everyone involved.

Social Consequences of Conserving the WRS

The social consequences of conserving WRSs depends primarily on the values of the affected organization. On the one hand, public and semi-public land would be used *less* efficiently, thus increasing the need for premature expansion of the regional Urban Growth Boundary. Scarce public and semi-public financial resources could be directed away from meeting other socially-redeeming objectives, such as education, active or organized recreation, personnel, meeting indoor space needs, etc. Where social *values* are concerned, public and semi-public agencies may consider wetland conservation a relatively low priority, compared with their core missions.

If public and semi-public employment is dispersed outside the existing regional UGB in order to conserve wetlands, then commuter travel may increase, which has negative social impacts. Air pollution may be increased commensurately. In addition, public development costs may be increased, assuming that the wetland would not be protected otherwise under state and federal regulations.

Wetland conservation need not conflict with the missions of public and semi-public agencies. Wetland conservation has become an increasing important social and educational value. For parks and school districts especially, a well-conserved wetland on school or park property offers an unusual opportunity for educating students and the general public regarding natural systems. The immediate availability of an on-site WRS can engender interest in natural systems, and provide a living laboratory for student ecology projects.

Wetlands usually add some amenity value to institutionally-developed land, and may not significantly reduce the amount of buildable land. Social consequences (open space and views) would be positive as a result of conserving the wetland area, which would be used as open space for the institutional and neighboring residential or business development. Wetlands provide educational opportunities for those living and working near them, which would be maintained. Wetlands also provide opportunities for urban quiet and solitude, which has positive social consequences.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with institutional development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based

recreational opportunities. The social consequences of allowing conserving the wetland would mean that the qualities which help make each wetland *significant* would be maintained.

Energy Consequences of Conserving the WRS

The energy consequences of conserving the WRS are not significant. The analysis of the energy consequences of allowing conflicting institutional uses, conversely applied, adequately describes the consequences of conserving the WRS.

6.8 PUBLIC FACILITIES THAT APPEAR ON THE COUNTY'S ADOPTED PUBLIC FACILITIES PLAN OR CAPITAL FACILITIES PLAN

The Category 4 supplemental ESEE analysis addresses planned public facilities which are needed to support urban development, such as streets, trails, sewer, storm drainage and water facilities, or other utilities. The questions to be answered through this process, are (a) can the WRS be avoided by the planned public facility, and (b) if not, how can the impacts of the planned public facility project be mitigated.

This subsection addresses **Category 4A** conflicting uses, which are major sanitary sewer, water, storm drainage or transportation facilities recognized on the County's PFP or CIP. PFP and CIP projects are, by definition, necessary to support planned urban development. Thus, the question of *whether* the planned public facilities project should occur at a general location has already been answered in the PFP or CIP planning process. Avoidance may be implausible where the specific route of a PFP or CIP project has already been determined. However, specific mitigation measures are usually determined through state and federal regulatory mechanisms.

The Category 4B supplemental ESEE analysis examines public facilities that do not appear on the PFP or CIP.

6.8.1 Regulatory Context

The Clackamas County Public Facilities Plan (PFP) identifies sanitary sewer, drainage, water and transportation projects that are needed over the 20-year planning period to support projected population and employment growth. The 5-year Capital Improvement Program (CIP) sets priorities for short-term projects and identifies probable funding sources for these projects.

Under the "Area of Application" for most zones in the ZDO, efficient use of service capacity is a recognized factor. For example, ZDO 301.02.B states that:

> *Capacity of Facilities: Land shall be zoned to maximize the capacity of facilities such as streets, sewers, water and storm drainage systems.*

Except for bus shelters (ZDO 301.04.J), public facilities are not recognized as permitted or conditionally permitted uses in the Clackamas County Zoning and Development Ordinance. PFP projects, however, are adopted as part of the CCCP, and are therefore permitted in all zones.

Projects which appear on either the County PFP or CFP are noted in the site-specific ESEE analysis. The purpose of this supplemental ESEE analysis, when considered with site-specific ESEE analyses, is to provide Clackamas County with factual information needed to resolve conflicts between conflicting major public facilities and inventoried WRS functions and values.

Many PFP projects are large enough to be federally-funded, in which case they usually are required to have an *Environmental Impact Statement*. The EIS also considers environmental, economic, social and energy consequences for various project alternatives. Where impacts are identified, mitigation is usually required.

Alternative routes with significant and adverse consequences may be rejected by funding or regulatory agencies. State and federal project review may determine (a) the precise location of a project, and (b) appropriate mitigation measures. A critical factor in determining the location of a public facilities project is whether a wetland can be practically *avoided*, which is usually determined during the EIS process. Where an EIS has been prepared for a public facilities project, that EIS will be recognized in the site-specific ESEE analysis.

However, this analysis will be used to determine whether and how to regulate WRSs *locally* -- regardless of whether specific wetlands are regulated by state and federal programs. Since projects recognized on the PFP have already gone through an exhaustive public review process, and have been found to be consistent with the CCCP and the Statewide Planning Goals, the *need* for these projects in their *general location* are presumed in this analysis.

6.8.2 Consequences of Allowing Conflicting Planned Public Facility Development

Environmental Consequences of Allowing Planned Public Facilities

In most cases, allowing the conflicting public facility does not mean that the WRS will be destroyed. The environmental consequences of constructing and maintaining planned public facilities depends on the answer to two primary questions: (1) can the WRS be avoided, either partially or completely; and (2) if avoidance is impractical, can the project be constructed so as to mitigate adverse impacts. These determinations can only be made on a site-specific basis.

The SRI/Shapiro Wetland Functions and Values report describes wetland functions and values that can be adversely affected by the location and construction of public facilities projects. The SRI/Shapiro report includes specific measures of ecological integrity, wetland wildlife habitat, flood control, sediment removal, and nutrient attenuation. If unrestricted public facilities construction were permitted through the wetland, it would mean that the qualities which make each wetland *significant* would be compromised.

Wetlands contribute directly to decreased flooding potential and to improved water quantity and quality, fish and wildlife habitat, and groundwater recharge. Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Wetlands improve water quantity and quality in a number of ways. Naturally vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, loss of wetlands contributes to flooding and reduces the quantity and quality of ground and surface water.

Wetlands are characterized by varying levels of plant and animal diversity. Wetlands provide improved fish and wildlife habitat by contributing to an integrated stream corridor ecosystem which provides food, shelter, breeding and rearing areas for aquatic and terrestrial animals and birds. Reduction in the quality, quantity and availability of food, cover and living space have significant detrimental effects on wildlife. Wetlands which are connected to other natural resources allow travel corridors for wildlife.

Of the four types of public facilities identified in the PFP, street construction can be the most destructive of wetland values. Often the choice for routing major streets is between (a) removing existing development, or (b) constructing the street through a wetland, because the wetland was previously passed over by development. Street construction may result in draining the wetland, removing native vegetation, or bisecting the wetland with consequent loss of connectivity. Run-off from impervious surface areas may also adversely affect water quality. Traffic along the street can kill wetland wildlife. Moreover, streets provide public access to WRSs, which may result in a variety of adverse impacts, including vandalism, dumping of garbage, noise and glare, and increased human and pet activity. An effective way to minimize these impacts is to job the street around the wetland, and possibly to limit public access from the street (and wildlife access to traffic) through fencing.

Sanitary sewer construction can also have significant adverse impacts. Gravity flow sewers are often routed through wetlands precisely because wetlands are lowlands. In addition to short-term impacts for vegetation removal and excavation, improper construction of bedding for sewer lines can drain a wetland permanently. An effective means of minimizing sewer impacts is to design the sewer line to avoid the wetland. Where this is impossible, appropriate design and construction methods can bring the wetland back to its original condition within a few years.

Storm sewer design construction can have major adverse impacts on wetland functions and values, especially on water quality. Where closed conduit systems deposit large quantities of untreated storm water directly to a wetland, wetland functions and values can be compromised in a short period of time. Although principal functions of wetlands include nutrient attenuation, flood control, and sediment reduction, the design and construction of storm water control systems must avoid over-taxing the capacity of individual wetlands to perform these functions.

Water system improvements probably have the least adverse impact on wetland functions and values. Their design and construction does not require a great deal of space, and they are typically constructed at higher, rather than lower, elevations. Where water lines must cross through a wetland, their impacts can be readily mitigated through proper design and re-vegetation.

Generally, when public facilities projects replace native vegetation, the value of the wetland for fish and wildlife habitat decreases. (See also Vegetation Removal Supplemental ESEE Analysis.) Public facilities construction in wetland areas does not necessarily eliminate all fish and wildlife habitat, but it may change the habitat in a way that decreases biodiversity, because only more aggressive and adaptable species can survive under changed ecological circumstances.

Public facilities construction and maintenance may threaten the ecological integrity of WRSs by providing public access for large numbers of people. Public facilities construction also increases the likelihood of garbage and littering, erosion, use of fertilizers and pesticides, and increased noise and glare.

Economic Consequences of Allowing Planned Public Facilities

State and federal wetland regulations require that *avoidance* be considered as the first option where wetlands stand in the way of planned public facilities. Avoidance can increase the costs of public facilities construction and maintenance, due to (a) increased costs of constructing longer streets or lines, (b) increased costs of acquiring upland (and possibly developed) properties adjacent to wetlands, (c) increased costs for pumping stations which may be required if gravity flow systems cannot be constructed, (d) increased commuting costs for out-of-direction travel, and (e) increased maintenance costs for longer or less direct streets or lines.

Avoidance is often most difficult for this conflicting use category. As noted above, gravity flow sanitary and storm sewer lines often are most economical and energy efficient if constructed within a drainage corridor, where wetlands tend to be located. Planned road extensions are often most economical and direct when constructed through, rather than around wetlands, because wetlands frequently have been passed over as development sites.

However, these costs need to be balanced against the cost of off-site mitigation, which was estimated by the Division of State Lands at Technical Advisory Committee (TAC) sessions at approximately $80,000 to $120,000 an acre. Thus, the off-site mitigation costs (in the event that off-site mitigation were to be approved by DSL and the Army Corps) may be considerable.

Economic consequences vary considerably based on individual site conditions, as noted in the site-specific ESEE analyses where planned public facilities are identified as a conflicting use. As noted above, *avoidance and mitigation* must be considered in any case. However, from the project manager's point of view, fewer *local* regulations could mean decreased uncertainty and design costs. The costs of additional consultant time might be avoided, the thought and energy required to design the project may be reduced, and there would be less local planning discretion and perhaps greater certainty in the review process.

Social Consequences of Allowing Planned Public Facility

The social consequences of allowing planned public facilities are generally positive. Public facilities projects are essential to serve existing and planned population and employment growth in the North Urban Area. The public need for most of these projects was established through the initial comprehensive planning process during the late 1970s, when land use designations and general public facilities needs were determined. The County's PFP planning process described the need for each project, its general location and timing, and probable funding sources.

However, the social consequences of allowing unrestricted construction of planned public facilities across WRSs would be mixed. On the positive side, public construction and maintenance costs probably would be reduced if wetlands impacts were neither avoided or mitigated. By increasing the amount of buildable land inside the regional Urban Growth Boundary, the efficiency of service provision would increase, because more land would be buildable. Expansion of the UGB to farm and forest land might be slightly delayed. Out-of-direction travel to avoid WRSs, and associated pollution and traffic impacts might be slightly reduced, assuming that future streets will be designed in a "grid" pattern.

On the other hand, there are serious adverse social consequences associated with unnecessary wetland destruction. Wetlands usually add amenity value to developed urban land, and avoiding wetlands would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of constructing public facilities through wetland sites, which could otherwise be used as public open space. Wetlands provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

Fortunately, these extremes can be avoided through appropriate design of planned public facilities. By jogging streets to avoid wetlands, the monotony of long, straight streets through undifferentiated neighborhoods can be avoided. Conserved wetlands provide visual relief for commuters, businesses and residents alike. A sanitary sewer project through a drainage corridor can have positive social and educational benefits (in addition to providing a basic service), by constructing pedestrian pathways as part of the project. Water quality swales can provide attractive and useful open space when design parameters are expanded to include useful and attractive urban open space. Even water reservoirs can be attractively designed to blend in with the natural environment, rather than contrasting with it.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted public facilities construction. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing public facilities construction over the wetland would mean that the human-related qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Planned Public Facility

The energy consequences of allowing planned public facilities are generally positive. Straight streets (which do not job to avoid wetlands) are the most efficient way of moving traffic. Straight sewer lines built near the bottom of stream beds (where wetlands are most often found) require fewer pump stations and conserve more energy.
On the hand, integration of wetlands into area-wide drainage programs is much more energy efficient than filling wetlands and constructing closed conduit systems.

Other energy consequences counter-balance each other, as described in other supplemental ESEE analyses.

6.8.3 Consequences of Limiting or Prohibiting Conflicting Planned Public Facilities

This portion of the ESEE analysis looks at the impacts of conserving WRSs on the conflicting use -- in this case, construction and maintenance of planned public facilities.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in 6.8.2 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting public facilities construction and maintenance on and near wetlands. Even with "full protection" of WRSs, there are activities associated with public facilities construction and maintenance (increased human activity, runoff noise, glare, trespass, vandalism, etc.), which

cannot be fully controlled by land use regulations or design techniques, which will probably degrade wetland resource values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be maintained by conserving the wetland.

Economic Consequences of Conserving the WRS

The economic consequences of conserving WRSs which lie in the path of planned public facilities will be largely negative. Design, construction and maintenance costs generally will increase, as streets, sanitary sewer collection systems, and water storage and distribution systems are re-designed to avoid or mitigate wetlands. Long-term public maintenance costs may also increase. In other words, there are public as well as private costs associated with maintaining water quality and urban wildlife habitat.

From the County's perspective, considerable public dollars have already been invested in planning for and constructing infrastructure (transportation, sewer, water, storm drainage, utilities) to serve buildable land in the North Urban Area. The return on public investment will be reduced in proportion to the amount of open space land which cannot be developed for more active recreational use, due to wetland or other constraints.

However, most of these economic impacts likely will occur whether or not the each WRS is locally regulated, because of state and federal avoidance and mitigation requirements. While it is highly probable that all locally *significant* wetlands will be regulated by state and federal standards anyway, local regulations may require that the environmental and social functions and values of WRSs be considered in the public facilities design process. This probably would translate into increased design, construction and maintenance cost.

Social Consequences of Conserving the WRS

The social consequences of conserving WRSs can be made positive through appropriate design of planned public facilities. On the positive side, the public will benefit from conservation of WRSs, because natural, urban open space will be conserved. On the negative side, wetland avoidance and mitigation costs public tax dollars. Overall, taxes will probably increase to support more environmentally-sensitive design and construction of planned public facilities.

On the negative side, if planned public facilities could not be constructed to serve existing and planned growth, the social consequences of wetland conservation would be serious and adverse. Public facilities projects are essential to serve existing and planned population and employment growth in the North Urban Area.
Conserving wetlands means decreasing the amount of buildable land inside the regional Urban Growth Boundary, and slightly less efficient service provision. Expansion of the UGB to include farm and forest land might occur sooner. Out-of-direction travel to avoid WRSs, and associated pollution and traffic impacts might be slightly increased.

On the other hand, there are serious adverse social consequences associated with unnecessary wetland destruction. Wetlands usually add amenity value to developed urban land, and avoiding wetlands would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of constructing public facilities through wetland sites, which could otherwise be used as public open space. Wetlands

provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

Fortunately, these extremes can be avoided through appropriate design of planned public facilities. By jogging streets to avoid wetlands, the monotony of long, straight streets through undifferentiated neighborhoods can be avoided. Conserved wetlands provide visual relief for commuters, businesses and residents alike. A sanitary sewer project through a drainage corridor can have positive social and educational benefits (in addition to providing a basic service), by constructing pedestrian pathways as part of the project. Water quality swales can provide attractive and useful open space when design parameters are expanded to include useful and attractive urban open space. Even water reservoirs can be attractively designed to blend in with the natural environment, rather than contrasting with it.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with open space development. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would mean that the qualities which help make each wetland *significant* would be maintained.

Energy Consequences of Conserving the WRS

Energy consequences of wetland conservation are also mixed, but are tilted somewhat to the negative. Streets must jog to avoid WRSs, which means increased out-of-direction travel and slower traffic in most cases. Avoidance of stream beds in the construction of sewer lines often means more pump stations which require more energy.

On the hand, integration of wetlands into area-wide drainage programs is much more energy efficient than filling wetlands and constructing closed conduit systems. Other energy consequences counter-balance each other, as described in other supplemental ESEE analyses.

6.9 PUBLIC FACILITIES NOT ON THE COUNTY'S ADOPTED PUBLIC FACILITIES PLAN OR CAPITAL FACILITIES PLAN

Category 4 addresses public facilities which are needed to support urban development, such as streets, trails, sewer, storm drainage and water facilities, or other utilities.

This subsection addresses **Category 4B**, or those public facilities which are needed to support individual developments, but which are not recognized on the PFP or CIP. Where it is practical to *avoid* the WRS and *serve buildable land*, then this ESEE analysis will favor conservation of the WRS. However, there are instances where public facilities must cross or skirt a wetland to serve development, or to connect with other sewer, water, storm drainage or transportation facilities. Such situations will be explicitly recognized in site-specific ESEE analyses, and the "conflicting use" probably will be allowed on a limited basis.

The Category 4A supplemental ESEE analysis examines public facilities that do appear on the PFP or CIP.

6.9.1 Regulatory Context

Public facilities necessary to serve development at the property level typically do not appear on the adopted PFP. The costs of providing these services is borne primarily by the property developer. Except for bus shelters (ZDO 301.04.J), public facilities are not recognized as permitted or conditionally permitted uses in the Clackamas County Zoning and Development Ordinance. ZDO Section 1011.03A states that roads should be sited to avoid open space resources, including wetlands.

The County Hearings Officer has interpreted public facilities necessary to serve individual developments as accessory to the primary uses they serve. Thus, streets, sanitary sewer and water lines necessary to serve planned development are governed by the applicable regulations of the underlying and overlaying zoning districts. Thus, where residential zones also have an *Open Space* overlay, public facilities that do not appear on the PFP must avoid affected wetlands. Public facilities serving land in commercial and industrial zones are subject to the same "balancing" provisions as allowed development in these zones. (See "Regulatory Context" discussions in Supplemental ESEE Analyses 1A, 1B, 1C and 2).

Under the "Area of Application" for most zones in the ZDO, efficient use of service capacity is a recognized factor. For example, ZDO 301.02.B states that:

> *Capacity of Facilities: Land shall be zoned to maximize the capacity of facilities such as streets, sewers, water and storm drainage systems.*

The purpose of this supplemental ESEE analysis, when considered with site-specific ESEE analyses, is to provide Clackamas County with factual information needed to resolve conflicts between conflicting public facilities construction and maintenance, and inventoried WRS functions and values. These analyses will be used to determine whether and how to regulate WRSs *locally* -- regardless of whether they are regulated by state and federal programs.

6.9.2 Consequences of Allowing Conflicting Non-PFP Public Facilities

Environmental Consequences of Allowing Non-PFP Public Facilities

The environmental consequences of allowing minor (Non-PFP) public facilities to serve development sites are *qualitatively* similar to major public facilities projects identified on the PFP. (See Section 6.8.2 of this report.) However, because the size and capacity of minor public facilities are usually lower -- associated environmental impacts usually are less intense.

In most cases, allowing the conflicting public facility does not mean that the WRS will be destroyed. The environmental consequences of constructing and maintaining planned public facilities depends on the answer to two primary questions: (1) can the WRS be avoided, either partially or completely; and (2) if avoidance is impractical, can the project be constructed so as to mitigate adverse impacts. However, where a wetland must be crossed to reach otherwise buildable land, the *avoidance* standard is met. With appropriate mitigation (*e.g.*, bridging or on-site replacement), negative impacts are acceptable. However, these determinations can only be made on a site-specific basis.

The SRI/Shapiro Wetland Functions and Values report describes wetland functions and values that can be adversely affected by the location and construction of public facilities projects. The SRI/Shapiro report includes specific measures of ecological integrity, wetland wildlife habitat, flood control, sediment removal, and nutrient attenuation. If unrestricted public

facilities construction were permitted through the wetland, it would mean that the qualities which make each wetland *significant* would be compromised. (The general discussion of environmental functions and values of WRSs that would be adversely affected by public facilities construction is applicable; see Section 6.8.2 of this report.)

Economic Consequences of Allowing Public Facilities

The principal difference between major public facilities which appear on the PFP, and minor ones that do not, is that the developer is usually responsible for paying the full cost of providing public facilities necessary to serve a particular property. For such facilities, state and federal wetland regulations require that *avoidance* be considered as the first option where wetlands stand in the way of planned public facilities. Where wetlands cannot be avoided, *mitigation* is required. Both have attendant costs, depending on the site-specific considerations. Avoidance can increase the costs of public facilities construction, due to (a) increased costs of constructing longer streets or lines, (b) increased costs of using otherwise buildable land for public facilities, adjacent to wetlands.

Probably the greatest potential costs to a developer is the loss of buildable land on a property, because the land is inaccessible or cannot be served due to an intervening wetland. In such situations, the site-specific ESEE analysis allows the wetland to be crossed or skirted to provide necessary public facilities. In addition to private property concerns, the public also has an interest in efficient use of public facilities.

Economic consequences vary considerably based on individual site conditions, as noted in the site-specific ESEE analyses where Category 4B public facilities are identified as a conflicting use. As noted above, *avoidance and mitigation* must be considered in the design and construction of public facilities in any case. However, from the developer's point of view, fewer *local* regulations could mean decreased uncertainty and design costs. The costs of additional consultant time might be avoided, the thought and energy required to design the project may be reduced, and there would be less local planning discretion and perhaps greater certainty in the review process.

The costs of avoidance and mitigation need to be balanced against the cost of off-site mitigation, which was estimated by the Division of State Lands at Technical Advisory Committee (TAC) sessions at approximately $80,000 to $120,000 an acre. Thus, the off-site mitigation costs (in the event that off-site mitigation were to be approved by DSL and the Army Corps) may be considerable.

Social Consequences of Allowing Public Facilities

The social consequences of allowing public facilities across wetlands, to serve individual sites, vary according to site-specific conditions. Public facilities are necessary to serve individual properties, in accordance with the CCCP and METRO's assumptions for the regional growth boundary. However, the social consequences of allowing unrestricted construction of minor public facilities across WRSs would be mixed. On the positive side, private construction and public maintenance costs probably would be reduced if wetlands impacts were neither avoided or mitigated. By increasing the amount of buildable land inside the regional Urban Growth Boundary, the efficiency of service provision would increase, because more land would be buildable. Expansion of the UGB to farm and forest land might be slightly delayed. Out-of-direction travel to avoid WRSs, and associated pollution and traffic impacts might be slightly reduced, depending on site-specific considerations.

On the other hand, there are serious adverse social consequences associated with unnecessary wetland destruction. Wetlands usually add amenity value to developed urban land, and avoiding wetlands would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of constructing public facilities through wetland sites, which could otherwise be used as public open space. Wetlands provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

Fortunately, these extremes can be avoided through appropriate design of minor public facilities. Conserved wetlands provide visual relief for commuters, businesses and residents alike. A sanitary sewer project through a drainage corridor can have positive social and educational benefits (in addition to providing a basic service), by constructing pedestrian pathways as part of the project. Water quality swales can provide attractive and useful open space when design parameters are expanded to include useful and attractive urban open space.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted public facilities construction. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of allowing public facilities construction over the wetland would mean that the human-related qualities which help make each wetland *significant* would be lost.

Energy Consequences of Allowing Public Facilities

The energy consequences of allowing minor public facilities are generally positive. Straight streets (which do not jog to avoid wetlands) are the most efficient way of moving traffic. Straight sewer lines built near the bottom of stream beds (where wetlands are most often found) require fewer pump stations and conserve more energy. To the extent that wetlands reduce the amount of buildable land, pre-mature expansion of the UGB and increased vehicle miles travelled might accompany strict wetlands conservation at the neighborhood level. However, the County's planned unit development and density transfer provisions allow for this impact to be modified.

On the other hand, integration of wetlands into area-wide drainage programs is much more energy efficient than filling wetlands and constructing closed conduit systems. Other energy consequences counter-balance each other, as described in other supplemental ESEE analyses.

6.9.3 Consequences of Limiting or Prohibiting Conflicting Minor Public Facilities to Conserve the WRS

This portion of the ESEE analysis looks at the impacts of conserving a significant wetland resource site on the conflicting use -- in this case, minor (non-PFP) public facilities necessary to serve individual properties.

Environmental Consequences of Conserving the WRS

The environmental values that would be retained by conservation of wetlands are described in 6.9.2 above. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting public facilities construction and maintenance on and near wetlands. Even with "full protection" of WRSs, there are activities associated with public facilities construction and

maintenance (increased human activity, runoff noise, glare, trespass, vandalism, etc.), which cannot be fully controlled by land use regulations or design techniques, which will probably degrade wetland resource values over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The environmental consequences of conserving wetlands are that these qualities which make each wetland *significant* would be maintained by conserving the wetland.

Economic Consequences of Conserving the WRS

The economic consequences of conserving WRSs which lie in the path of minor public facilities will be largely negative. Design, construction and maintenance costs generally will increase, as streets, sanitary sewer collection systems, and water storage and distribution systems are re-designed to avoid or mitigate wetlands. Long-term public maintenance costs may also increase. In other words, there are public as well as private costs associated with maintaining water quality and urban wildlife habitat.

However, most of these economic impacts likely will occur whether or not the each WRS is locally regulated, because of state and federal avoidance and mitigation requirements. While it is highly probable that all locally *significant* wetlands will be regulated by state and federal standards anyway, local regulations may require that the environmental and social functions and values of WRSs be considered in the public facilities design process. This probably would translate into increased design, construction and maintenance cost.

To the extent that otherwise buildable land is *inaccessible* due to an intervening wetland, the economic consequences of completely protecting the wetland are unacceptably great. In such situations, crossing the wetland with minor public facilities should be permitted. However, this determination can only be made on a property-specific basis. (See site-specific ESEE analyses.)

From the County's perspective, considerable public dollars have been invested in providing infrastructure (transportation, sewer, water, storm drainage, utilities) to otherwise buildable land in the North Urban Area. The return on public investment will be reduced in proportion to the amount of open space land which cannot be developed for more active recreational use, due to wetland or other constraints.

Social Consequences of Conserving the WRS

The social consequences of conserving WRSs can be made positive through appropriate design of minor public facilities. On the positive side, the public will benefit from conservation of WRSs, because natural, urban open space will be conserved. On the negative side, wetland avoidance and mitigation costs will likely be passed on to the consumer. Overall, property rents and values will probably increase to support more environmentally-sensitive design and construction of minor public facilities.

On the negative side, if minor public facilities could not be constructed to serve existing and planned growth, the social consequences of wetland conservation would be serious and adverse. Such facilities projects are essential to serve existing and planned population and employment growth in the North Urban Area.
Conserving wetlands means decreasing the amount of buildable land inside the regional Urban Growth Boundary, and slightly less efficient service provision. Expansion of the UGB to include farm and forest land might occur sooner. Out-of-direction travel to avoid WRSs, and associated pollution and traffic impacts might be slightly increased.

On the other hand, there are serious adverse social consequences associated with unnecessary wetland destruction. Wetlands usually add amenity value to developed urban land, and avoiding wetlands would only marginally reduce the amount of buildable land. Social consequences (lost open space and views) would be adverse as a result of constructing public facilities through wetland sites, which could otherwise be used as public open space. Wetlands provide educational opportunities for those living near them, which would be lost. Wetlands also provide opportunities for urban quiet and solitude, the lack of which has adverse social consequences.

Fortunately, these extremes can be avoided through appropriate design of planned public facilities. By jogging utilities and streets to avoid wetlands, site amenities are maintained. Conserved wetlands provide visual relief for commuters, businesses and residents alike.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be compromised by unrestricted residential development. Urban educational opportunities and aesthetic values are especially important when considering conflicts with minor public facilities. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving the wetland would mean that the qualities which help make each wetland *significant* would be maintained.

Energy Consequences of Conserving the WRS

Energy consequences of wetland conservation are also mixed, but are tilted somewhat to the negative. Streets must jog to avoid WRSs, which means increased out-of-direction travel and slower traffic in most cases. Avoidance of stream beds in the construction of sewer lines often means more pump stations which require more energy.

On the hand, integrating wetlands into property-specific and area-wide drainage programs is much more energy efficient than filling wetlands and constructing closed conduit systems. Other energy consequences counter-balance each other, as described in other supplemental ESEE analyses.

6.10 NATIVE VEGETATION REMOVAL

The removal of native vegetation, whether as a result of clearing, excavation, commercial timber harvests, or farming, can adversely affect wetland functions and values. Vegetation removal resulting from farm or forest practices is considered in a separate supplemental ESEE analysis.

All wetland resource sites are potentially affected by vegetation removal and excavation. Certain sites which are especially susceptible to degradation from these activities are individually identified in the site-specific ESEE consequences analysis. The focus of this analysis is on removal of *native plant species*. Removal of introduced species is not considered a conflicting use.

6.10.1 Regulatory Context

Unless conditioned as part of a development application, Clackamas County currently does not regulate vegetation removal, *per se*, within WRSs or WRS impact areas. For example, "accessory" gardens are permitted in all ULDR zoning districts. (ZDO 301.04)

Conditions of approval may be attached to development approvals to require maintenance of native vegetation on the WRS and its impact area, through conservation easements or other methods.

6.10.2 Consequences of Allowing Vegetation Removal for WRS

Environmental Consequences of Allowing Native Vegetation Removal

Urban wetlands should be considered as part of a much larger ecological system of wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the quality and quantity of native vegetation cover. Most of the 14 functions and values applied to determine WRS *significance* (see Section 3.5 of this report) are adversely affected by loss of wetland vegetation.

Ecological integrity, wetland wildlife habitat, visual/aesthetic quality, sediment trapping, and *nutrient attenuation* are all dependent upon maintenance of native vegetation. In fact, a critical focus of many wetland mitigation projects is removal of non-native wetland plants and replacement with native plant species.

Maintenance of wetland vegetation contributes directly to improved water quantity, quality, and fish and wildlife habitat. The retention of native vegetation is a critical element in these wetland functions and values. The value of conserving wetlands through the development process may be compromised by vegetation removal which occurs on otherwise "protected" WRSs.

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Without native vegetative cover, the potential for flood damage and erosion increases. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, degradation of wetlands caused by vegetation removal, whether as a result of excavation, cutting, or chemical removal, contributes to the direct loss of wetland functions and values.

Wetlands are characterized by varying levels of plant and animal diversity. Where there is greater wetland plant diversity, wetlands usually have higher rankings. Reduction in the quality, quantity and availability of food and cover provided by wetland vegetation has significant detrimental effect on wildlife. Where wetlands are connected to other natural resources, and provide cover and food for small animals and birds, they also provide essential travel corridors for wildlife.

When native vegetation is removed, the value of the wetland for habitat decreases dramatically. Spraying, cutting or scraping of vegetation is often considered to be "routine maintenance," but has the effect of changing the vegetative regime and habitat qualities of a wetland. The removal of native vegetation usually results in replacement with introduced and more hardy species (*e.g.*, reed canary grass), which tends to decrease biodiversity, as more aggressive and adaptable species survive and displace less adaptable species under changed ecological circumstances.

Where native vegetation is replaced with lawns or gardens, increased sediment and nutrient loading is likely to occur. The result is decreased water quantity and quality, and diminished fish and wildlife habitat. Even if the wetland were conserved, the side effects of wetland vegetation loss are likely to be intensified where there are higher population concentrations in proximity to the wetland resource site.

In conclusion, the SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted vegetation removal. The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The presence or absence of native vegetation is a critical element in SRI/Shapiro's method of evaluating the quality of surveyed wetlands. The environmental consequences of allowing native vegetation removal - whether through excavation, maintenance, chemical or mechanical removal - on a wetland would mean that the qualities which make each inventoried wetland *significant* would be lost.

Economic Consequences of Removing Native Vegetation

Allowing unrestricted vegetation removal, except to prepare a site for development (see other applicable supplemental ESEE analyses), would appear to have few positive economic consequences. Removal of native vegetation may result in use of property for lawns or gardens. Where a more manicured appearance is perceived as a desirable property trait, there may be a slight increase property values.

On the other hand, the economic value of natural areas is increasingly recognized by developers and homeowners. It is not uncommon for developers, homeowners or governments to place "conservation easements" over wetlands to ensure their maintenance in a natural state. As public attitudes towards wetlands change, native vegetation removal probably will have more pronounced and adverse economic impacts on neighboring property owners.

Social Consequences of Removing Native Vegetation

The social consequences of allowing unrestricted vegetation removal or excavation on significant wetland resource sites are mixed, but largely adverse. On the positive side, native vegetation removal allows for creation of a more "park-like" appearance, which has its own social appeal. Wetlands which are mowed and maintained primarily for human use may have increased open space value to some people.

On the other hand, retention of native vegetation in urban wetlands is what makes such wetlands *valuable* for those who live and work nearby. Over the last decade, the public attitude toward wetland conservation has changed dramatically. Neighborhood property owners and associations, joining with environmental groups, have opposed developments which result in a loss of wetland values. Although wetland conservation may be an excuse for "nimby-ism," citizens have a much greater awareness, and place a much higher value, on conserving both the natural appearance and wildlife habitat values of wetlands.

Energy Consequences of Removing Native Vegetation

The energy consequences of native vegetation removal are not major. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access, although this is less likely with taller buildings.

On the negative side, removal of wetland vegetation could counter-balance the moderating effect that vegetation in general has on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local "natural" opportunities, thus reducing the need to drive for outdoor experiences.

6.10.3 Consequences of Limiting or Prohibiting Native Vegetation Removal

This portion of this supplemental ESEE analysis looks at the consequences of conserving -- rather than removing -- native vegetation on the significant wetland resource site.

Environmental Consequences of Conserving Native Vegetation

The environmental values that would be retained by conservation of wetlands are described in 6.10.3, above, and are extremely positive. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting vegetation removal on and near wetlands. Even with "full protection" of wetland vegetation, activities associated with development (pets, children, ATVs, run-off, etc.), which cannot be fully controlled by land use regulations, could result in loss of wetland vegetation over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, sediment trapping, aesthetics, and nutrient attenuation. The retention of the qualities which make each wetland *significant* are dependent upon conserving, or enhancing, each wetland's native vegetation. There are no adverse environmental consequences associated with conserving native vegetation.

Economic Consequences of Conserving Native Vegetation

Prohibiting vegetation removal, except to prepare a site for development (see other applicable supplemental ESEE analyses), would appear to have few negative economic consequences. Removal of native vegetation may result in use of property for lawns or gardens. Where a more manicured appearance is perceived as a desirable property trait, there may be a slight increase property values.

One negative economic consequence of conserving native vegetation would be the costs incurred by Clackamas County in administering and enforcing a vegetation removal program.

There are a number of adverse economic consequences associated with unrestricted vegetation removal or excavation. To the extent that wetlands contribute to the economic value of a property (scenic, open space, etc.), this value would be seriously diminished if native vegetation were removed or the site were converted from a natural state. Conserving native vegetation can have positive economic value, by minimizing erosion and maximizing water quality, which can increase the economic value of urban property.

It is useful to look at the economic consequences of conserving the significant wetland resource site from different points of view. Often, impacts are less significant at the study area level than from the point of view of the individual property owner. The ESEE analysis for each *individual* significant wetland resource site will address the special characteristics of that site in relation to property owner interests.

Social Consequences of Conserving Native Vegetation

The social consequences of conserving native vegetation on significant wetland resource sites would be mixed.

On the positive side, wetland vegetation may add amenity value to residentially developed land. Social consequences (*natural* open space, views, undisturbed wildlife habitat areas close to population centers) would be positive as a result of conserving the wetland vegetation. Wetlands *with native vegetation* provide educational opportunities for those living near them, which would be maintained.

On the negative side, conservation of native vegetation precludes a "park-like" appearance, which has its own social appeal. Wetlands which are mowed and maintained primarily for human use may have increased open space value to some people.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be largely conserved by retaining native vegetation. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving wetland vegetation are virtually the same as the consequences of conserving the wetland itself. In many cases, it is the quality and quantity of the wetland vegetation that makes the wetland *significant.*

Energy Consequences of Conserving Native Vegetation

The energy consequences of native vegetation conservation are not major. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access, although this is less likely with taller buildings.

On the negative side, conservation of wetland vegetation would have a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetland *with native vegetation* provide the opportunity to experience "nature" directly and locally, without having to drive to the country-side.

6.11 FORESTRY AND FARMING

The removal of native vegetation, whether as a result of clearing, excavation, commercial timber harvests, or farming, can adversely affect wetland functions and values. Vegetation removal resulting from farm or forest practices is considered in this supplemental ESEE analysis.

All wetland resource sites are potentially affected by vegetation removal and excavation. Forested wetland sites are especially susceptible to degradation from logging or spraying. The focus of this analysis is on removal of *native plant species*, whether to be able to farm land or to grow and remove trees. Removal of introduced species is not considered a conflicting use.

6.11.1 Regulatory Context

Commercial forest practices are a permitted use in ULDR designations within the North Urban Area. (ZDO 301.03) Limited commercial agriculture is permitted conditionally in ULDR districts. (ZDO 301.5)

Commercial farming and forestry are not listed uses in the North Urban Area's multiple-family residential, commercial or industrial zoning districts.

6.11.2 Consequences for WRS of Allowing Vegetation Removal

Environmental Consequences of Conflicting Commercial Farm or Forest Practices

The only place that *new* commercial farm of forestry uses could occur on significant WRSs in the ULDR designation. However, this is where most of the significant wetlands are found.

If trees and native vegetation were removed from wetlands, and the site plowed under for agriculture, there would be adverse impacts on wetland functions and values. If native vegetation is sprayed to keep it "under control," or wetland forests removed, major adverse affects on the wetland would result.

Urban wetlands should be considered as part of a much larger ecological system of wetlands, stream corridors, vegetated uplands and the Willamette and Clackamas Rivers. The intrinsic value of any particular wetland is affected by the quality and quantity of native vegetation cover. Most of the 14 functions and values applied to determine WRS *significance* (see Section 3.5 of this report) are adversely affected by loss of wetland vegetation, which results from commercial farming and forestry. Farming entails cultivation of the soil and planting of non-native species, or grazing of animals. Forestry usually requires spraying to remove plant species that compete with commercial forest crops, and removal of trees that provide habitat value.

Ecological integrity, *wetland wildlife habitat, visual/aesthetic quality, sediment trapping,* and *nutrient attenuation* are all dependent upon maintenance of native vegetation. In fact, a critical focus of many wetland mitigation projects is the removal of non-native wetland plants and replacement with native plant species.

Maintenance of wetland vegetation contributes directly to improved water quantity and quality, and fish and wildlife habitat. The retention of native vegetation is a critical element in these wetland functions and values. The value of conserving wetlands through the development process may be compromised by vegetation removal which occurs on otherwise "protected" WRSs.

Wetlands decrease flooding potential by providing flood water storage, dissipating the force of moving water, and by allowing storm water to seep gradually into the ground rather than moving rapidly over the surface and increasing flood damage and erosion. Without native vegetative cover, the potential for flood damage and erosion increases. Wetlands improve water quantity and quality in a number of ways. Vegetated soils allow water to filter

downward to the groundwater reservoir, adding volume to surface waters during low flow periods. Increased groundwater levels add to surface water flows during low flow periods. Wetlands allow sediment to settle out and be trapped by vegetation before it reaches streams. Natural vegetation also absorbs chemicals and heavy metals, reducing water pollution. Thus, degradation of wetlands caused by vegetation removal, whether as a result of excavation, cutting, or chemical removal, contributes to the direct loss of wetland functions and values.

Wetlands are characterized by varying levels of plant and animal diversity. Where there is greater wetland plant diversity, wetlands usually have higher rankings. Reduction in the quality, quantity and availability of food and cover provided by wetland vegetation has significant detrimental effect on wildlife. Where wetlands are connected to other natural resources, and provide cover and food for small animals and birds, they also provide essential travel corridors for wildlife.

When native vegetation is removed, the value of the wetland for habitat decreases dramatically. Spraying, cutting or scraping of vegetation is often considered to be "routine maintenance," but has the effect of changing the vegetative regime and habitat qualities of a wetland. The removal of native vegetation usually results in replacement with introduced and more hardy species (*e.g.*, reed canary grass), which tends to decrease biodiversity, as more aggressive and adaptable species survive and displace less adaptable species under changed ecological circumstances.

Where native vegetation is replaced with lawns or gardens, increased sediment and nutrient loading is likely to occur. The result is decreased water quantity and quality, and diminished fish and wildlife habitat. Even if the wetland were conserved, the side effects of wetland vegetation loss is more likely to occur where there are higher concentrations of population in proximity to the wetland resource site.

In conclusion, the SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be compromised by unrestricted residential development. The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, flood control potential, sediment trapping and nutrient attenuation. The presence or absence of native vegetation is a critical element in SRI/Shapiro's method of evaluating the quality of surveyed wetlands. The environmental consequences of allowing native vegetation removal - whether as a result of farm or forest practices - on a wetland would mean that the qualities which make each inventoried wetland *significant* would be lost.

Economic Consequences of Allowing Farming and Forestry

It is doubtful whether there is a great deal of demand for WRSs for agricultural purposes. Urban land that has not been farm historically is unlikely to be in demand today. A possible exception may be *wetland nurseries*, which may be an appropriate use in urban areas, where there is increasing demand for wetland plants.

Commercial timber harvesting is possible in forested wetlands or their impact areas. Douglas fir and western red cedar can grow in or near hydric soils. There is also some commercial value in hardwoods that grow in wetland soils, such as alder, maple, ash, cottonwoods, etc. To the extent that there are commercial species present on wetlands sites, and the issue is raised by property owners, the commercial of timber on or adjacent to particular WRSs should be considered in the site-specific ESEE analysis.

On the other hand, the economic value of natural areas is increasingly recognized by developers and homeowners. It is not uncommon for developers, homeowners or governments to place "conservation easements" over wetlands to ensure their maintenance in a natural state. As public attitudes towards wetlands change, native vegetation removal probably will have more pronounced and adverse economic impacts on neighboring property owners.

Social Consequences of Allowing Farming and Forestry

The social consequences of allowing farming and forestry in WRSs, or preparation of property for these land uses, are almost adverse. There is no known social value associated with harvesting wetland trees, or in cultivating wetlands.

On the other hand, retention of native vegetation in urban wetlands is what makes such wetlands *valuable* those who live and work nearby. Over the last decade, the public attitude towards wetland conservation has changed dramatically. Neighborhood property owners and associations, join with environmental groups, in opposing developments which result in a loss of wetland values. Although wetland conservation may be an excuse for "nimby-ism," citizens have a much greater awareness, and place a much higher value, on conserving both the natural appearance and wildlife habitat values of wetlands.

Energy Consequences of Allowing Farming and Forestry

The energy consequences of native vegetation removal for these uses are not major. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access, although this is less likely with taller buildings. There may be some energy advantages by reducing transportation costs for farm and forest products to urban centers.

On the negative side, removal of wetland vegetation for commercial farming or forestry could counter-balance the moderating effect that vegetation in general has on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands also provide local "natural" opportunities, thus reducing the need to drive for outdoor experiences.

6.11.3 Consequences for WRS of Limiting or Prohibiting Native Vegetation Removal

This portion of this supplemental ESEE analysis looks at the consequences of conserving native vegetation on the significant wetland resource site, rather than removing it for farm or commercial forest uses.

Environmental Consequences of Conserving Native Vegetation

The environmental values that would be retained by conservation of wetlands are described in 6.11.2, above, and are extremely positive. The SRI/Shapiro Wetland Functions and Values report describes and analyzes the environmental qualities of each wetland in this category which would be largely retained by prohibiting vegetation removal on and near wetlands. Even with "full protection" of wetland vegetation, activities associated with development (pets, children, ATVs, run-off, etc.), which cannot be fully controlled by land use regulations, could result in loss of wetland vegetation over time.

The SRI/Shapiro report includes specific measures for ecological integrity, wetland wildlife habitat, sediment trapping, aesthetics, and nutrient attenuation. The retention of the qualities which make each wetland *significant* are dependent upon conserving, or enhancing, each wetland's native vegetation. There are no adverse environmental consequences associated with loss of native vegetation.

Economic Consequences of Conserving Native Vegetation

Unless evidence is presented that there are major economic benefits from timber harvesting or farming of WRSs, there is little evidence to support the proposition that cultivating wetland soils, grazing over wetlands, or harvesting wetland trees, justify the attendant loss of wetland functions and values.

To the extent that wetlands contribute to the economic value of a property (scenic, open space, etc.), this value would be seriously diminished if native vegetation were removed or the site were converted from a natural state. Conserving native vegetation can have positive economic value, by minimizing erosion and minimizing water quality, which can reduce the economic value of urban property. Forested wetlands, in particular, have economic value to residential neighborhoods, which would be diminished if WRSs were to be denuded.

Social Consequences

The social consequences of conserving significant wetland resource sites are almost entirely positive. Wetland vegetation (as opposed to farming or harvesting of trees) usually adds amenity value to residentially developed land. Social consequences (*natural* open space, views, undisturbed wildlife habitat areas close to population centers) would be positive as a result of conserving the wetland vegetation. Wetlands *with native vegetation* provide educational opportunities for those living near them, which would be maintained.

On the negative side, conservation of native vegetation precludes commercial farm and forest operations in urban areas, which may result in some loss of jobs, or, in some people's minds, under-utilized land. Wetlands which are farmed or managed for commercial forest uses may have increased social value to some people.

The SRI/Shapiro Wetland Functions and Values report describes and analyzes the social qualities of each wetland in this category which would be largely conserved by retaining native vegetation. The SRI/Shapiro report includes specific measures for educational potential, visual/aesthetic quality, and water based recreational opportunities. The social consequences of conserving wetland vegetation are virtually the same as the consequences of conserving the wetland itself. In many cases, it is the quality and quantity of the wetland vegetation that makes the wetland *significant*.

Energy Consequences of Conserving Wetland Vegetation

The energy consequences of native vegetation conservation are not major. From a solar perspective, it is possible that vegetation from forested wetlands could shade south-facing windows of houses, thus reducing solar access, although this is less likely with taller buildings.

On the negative side, conservation of wetland vegetation would have a moderating effect on climate. Trees provide shade which can cool buildings in the summer and serve as a wind break in the winter. At a macro level, plants absorb sunlight and transpire during the growing season, slightly reducing ambient air temperatures. Wetlands *with native vegetation* provide the opportunity to experience "nature" directly and locally, without have to drive to the country-side.

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APPENDIX A

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-001 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-1

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 5/2
Mottle Color: 7.5YR 5/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: DRAINAGE CHANNEL DEPRESSION AREA

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*RANUNCULUS REPENS*	FACW	95%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-003 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 5/2
Mottle Color: 7.5YR 5/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	30%	
Tree	*ALNUS RUBRA*	FAC	30%	
Tree	*PSEUDOTSUGA MENZIESII*	UPL	30%	20%
Herb	*CAREX DEWEYANA*	FAC+	30%	
Herb	*GALIUM APARINE*	FACU	30%	
Herb	*POLYSTICHUM MUNITUM*	UPL	30%	10%
Woody Vine	*RUBUS URSINUS*	NI	100%	70%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-004
Date: 07/19/93
Township: 2S
Range: 2E
Section: 2
Sample Site: A-1-3

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: DEPRESSIONAL AREA

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	15%
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	80%	25%
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*RANUNCULUS REPENS*	FACW	50%	
Herb	*URTICA DIOICA*	FAC+	20%	30%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	30%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 83%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-005 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-4

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 7.5YR 3/4
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	80%	15%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	30%	
Sapling/Shrub	*CORYLUS CORNUTA*	NI	30%	
Sapling/Shrub	*RUBUS PARVIFLORUS*	FACU+	25%	30%
Herb	*CIRCAEA ALPINA*	FACW	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	20%	
Herb	*TOLMIEA MENZIESII*	FAC	40%	20%
Woody Vine	*RUBUS DISCOLOR*	FACU-	40%	
Woody Vine	*RUBUS URSINUS*	NI	60%	35%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 43%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
Project #: 92079-002 Date: 07/19/93
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-1-5

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/2
Mottle Color: 10YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: DRAINAGE PATTERNS ACROSS LAWN

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	80%
Herb	*FESTUCA RUBRA*	FAC	20%	
Herb	*RANUNCULUS REPENS*	FACW	60%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-007 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-6

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/2
Mottle Color: 10YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	40%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	80%	
Sapling/Shrub	*PHYSOCARPUS CAPITATUS*	FAC+	20%	15%
Herb	*CAREX DEWEYANA*	FAC+	10%	
Herb	*CAREX OBNUPTA*	OBL	60%	
Herb	*CIRCAEA ALPINA*	FACW	20%	40%
Woody Vine	*RUBUS URSINUS*	NI	100%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 80%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
Project #: 92079-006 Date: 07/19/93
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-1-7

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/3
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	90%	10%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	40%	
Sapling/Shrub	*OEMLARIA CERASIFORMIS*	UPL	40%	30%
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	60%	20%
Woody Vine	*RUBUS DISCOLOR*	FACU-	40%	
Woody Vine	*RUBUS URSINUS*	NI	60%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-008 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: DRS/FES Sample Site: A-1-8

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1-3/2
Mottles: YES Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment: DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	20%
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	35%	
Sapling/Shrub	*LONICERA INVOLUCRATA*	FAC	20%	
Sapling/Shrub	*PHYSOCARPUS CAPITATUS*	FAC+	20%	
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	10%	70%
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*CAREX OBNUPTA*	OBL	40%	
Herb	*CIRCAEA ALPINA*	FACW	30%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
Project #: 92079-010 Date: 07/19/93
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-1-9

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 7.5YR 3/4
Hydric Soil Criteria met: YES
Comment: SOME VARIEGATION - FILL MATERIAL; SOME GRAVEL BELOW 12"

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	20%
Herb	*AGROSTIS TENUIS*	FAC	40%	
Herb	*HOLCUS LANATUS*	FAC	10%	
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*LOTUS CORNICULATUS*	FAC	30%	80%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
Project #: 92079-012 Date: 07/19/93
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-1-10

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 4/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: FILL

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ELEOCHARIS PALUSTRIS*	OBL	20%	
Herb	*TARAXACUM OFFICINALE*	FACU	20%	
Herb	*TRIFOLIUM PRATENSE*	FACU	40%	
Herb	*TRIFOLIUM REPENS*	FACU+	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 25%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-009 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES Sample Site: A-1-11

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS ALBA*	FACW	20%	
Herb	*ELEOCHARIS PALUSTRIS*	OBL	30%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-011 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-12

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	25%	
Herb	*HOLCUS LANATUS*	FAC	25%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 75%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
Project #: 92079-013 Date: 07/19/93
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-1-13

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 75%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-015 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-14

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/2
Mottle Color: 10YR 5/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*PSEUDOTSUGA MENZIESII*	UPL	45%	
Tree	*QUERCUS GARRYANA*	UPL	25%	
Tree	*THUJA PLICATA*	FAC	20%	40%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	20%	
Sapling/Shrub	*CORYLUS CORNUTA*	NI	20%	
Sapling/Shrub	*GAULTHERIA SHALLON*	UPL	20%	
Sapling/Shrub	*PHILADELPHUS LEWISII*	UPL	20%	45%
Herb	*POLYSTICHUM MUNITUM*	UPL	90%	5%
Woody Vine	*RUBUS URSINUS*	NI	100%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 14%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-014 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-15

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	30%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*LOTUS CORNICULATUS*	FAC	25%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 75%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-016 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-16

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	15%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	85%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 80%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-017 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-17

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*ROSA SP.*	NI	100%	25%
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*CAREX SP.*	FACW	10%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*RANUNCULUS REPENS*	FACW	20%	
Herb	*VERONICA AMERICANA*	OBL	20%	25%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 80%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-018 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-18

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment: WETLAND DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	25%
Sapling/Shrub	*PHYSOCARPUS CAPITATUS*	FAC+	85%	50%
Herb	*CAREX OBNUPTA*	OBL	85%	25%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-019 Date: 07/19/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-19

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	20%	
Sapling/Shrub	*CORYLUS CORNUTA*	NI	25%	
Sapling/Shrub	*GAULTHERIA SHALLON*	UPL	20%	
Sapling/Shrub	*SYMPHORICARPOS ALBUS*	FACU	20%	50%
Herb	*CAREX OBNUPTA*	OBL	30%	
Herb	*POLYSTICHUM MUNITUM*	UPL	55%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 40%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-020 Date: 07/20/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: RAJ
Sample Site: A-1-20

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 5/3
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	70%	
Tree	*PSEUDOTSUGA MENZIESII*	UPL	20%	50%
Sapling/Shrub	*CORYLUS CORNUTA*	NI	60%	
Sapling/Shrub	*MALUS FUSCA*	FAC+	30%	20%
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	30%	
Herb	*URTICA DIOICA*	FAC+	30%	15%
Woody Vine	*HEDERA HELIX*	UPL	30%	
Woody Vine	*RUBUS URSINUS*	NI	60%	15%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 43%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-021 Date: 07/20/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: DRS/FES
Sample Site: A-1-21

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	20%
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	90%	45%
Herb	*CAREX OBNUPTA*	OBL	85%	25%
Woody Vine	*RUBUS URSINUS*	NI	90%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-022
Township: 2S
Range: 2E
Section: 2
Date: 07/20/93
Sample Site: A-1-22

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 7.5YR 3/4
Hydric Soil Criteria met: YES
Comment: BLOCKY SOIL; MAY BE DISTURBED

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CORYLUS CORNUTA*	NI	20%	
Sapling/Shrub	*POPULUS BALSAMIFERA*	FAC	65%	25%
Herb	*AGROSTIS TENUIS*	FAC	45%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*GALIUM APARINE*	FACU	20%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-060 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: RAJ/FES Sample Site: A-2-1

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1-3/2
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: IS IN DRAINAGEWAY 4' FROM CHANNEL WITH FLOWING WATER

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	40%	
Herb	*LOLIUM MULTIFLORUM*	UPL	20%	
Herb	*RANUNCULUS REPENS*	FACW	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 67%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-023 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: RAJ
Sample Site: A-2-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: FILL

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	60%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	10%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: RAJ/FES
Project #: 92079-061 Date: 11/18/92
State: OR Township: 2S Range: 2E Section: 2
Sample Site: A-2-3

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment: AT UPPER END OF DRAINAGEWAY - NO CHANNEL

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*FESTUCA ARUNDINACEA*	FACU-	30%	
Herb	*HOLCUS LANATUS*	FAC	30%	
Herb	*RANUNCULUS REPENS*	FACW	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 67%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-062 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: RAJ/FES
Sample Site: A-2-4

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color:
Mottles:
Hydric Soil Criteria met: YES
Comment: FILL MATERIAL TOO ROCKY TO PENETRATE

Hydrology

Inundated: YES Depth: 2 " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment: CHANNEL FED BY 28" ID CULVERT WITH 2" WATER FLOW

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS GENICULATUS*	FACW+	20%	
Herb	*EPILOBIUM WATSONII*	FACW-	20%	
Herb	*RANUNCULUS REPENS*	FACW	20%	
Herb	*VERONICA AMERICANA*	OBL	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-063 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES
Sample Site: A-2-5

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2-4/2
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	50%	
Herb	*LOLIUM MULTIFLORUM*	UPL	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 67%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-064 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES
Sample Site: A-2-6

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/3
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*LOLIUM PERENNE*	FACU	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
State: OR
Project #: 92079-065
Date: 11/18/92
Township: 2S
Range: 2E
Section: 2
Investigator: FES
Sample Site: A-2-7

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	100%	55%
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	50%	
Sapling/Shrub	*OEMLARIA CERASIFORMIS*	UPL	50%	5%
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	30%	
Herb	*TELLIMA GRANDIFLORA*	UPL	40%	30%
Woody Vine	*RUBUS DISCOLOR*	FACU-	50%	
Woody Vine	*RUBUS URSINUS*	NI	50%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 14%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-067 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 2
Investigator: FES
Sample Site: A-3-1

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment: WITHIN 5' OF POND EDGE

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	20%	20%
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	40%	
Herb	*RANUNCULUS REPENS*	FACW	20%	75%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 40%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-068 Date: 12/17/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES/DRS
Sample Site: A-4-1

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: YES
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 5
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: ON LOW TERRACE ~20' FROM CREEK CHANNEL

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	40%
Herb	*FESTUCA RUBRA*	FAC	20%	
Herb	*RANUNCULUS REPENS*	FACW	70%	60%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
State: OR
Project #: 92079-069
Township: 2S
Range: 2E
Section: 1
Date: 12/17/92
Sample Site: A-4-2

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/4
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*POPULUS BALSAMIFERA*	FAC	100%	40%
Herb	*FESTUCA RUBRA*	FAC	70%	
Herb	*GLECOMA HEDERACEA*	FACU+	20%	20%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-070 Date: 12/17/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES/DRS Sample Site: A-4-3

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/2
Mottles: YES Mottle Color: 5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 8
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*RANUNCULUS REPENS*	FACW	85%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-071 Date: 12/17/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES/DRS
Sample Site: A-4-4

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 2/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*DACTYLIS GLOMERATA*	FACU	30%	
Herb	*RANUNCULUS REPENS*	FACW	20%	90%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
State: OR
Project #: 92079-072
Township: 2S
Range: 2E
Date: 12/17/92
Section: 1
Sample Site: A-4-5

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: YES
Depth to Water Table: 12
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: ELEVATED TERR. AT SLOPE BASE-RECEIVES/RETAINS SEEP. FROM UPSLOPE

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*RANUNCULUS REPENS*	FACW	70%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-073 Date: 12/17/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: FES/DRS
Sample Site: A-4-6

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 15-30% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: YES
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 12
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	70%	
Tree	*THUJA PLICATA*	FAC	30%	25%
Herb	*GALIUM APARINE*	FACU	80%	5%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	70%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment: SITE DOES NOT SUPPORT HYDROPHYTIC VEGETATION

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-029 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: RAJ
Sample Site: A-5-1

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 4/6
Hydric Soil Criteria met: YES
Comment: SULFIDIC; IRON CONCRETIONS

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 4
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	90%	50%
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	80%	10%
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*RANUNCULUS REPENS*	FACW	50%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: RAJ
Project #: 92079-030 Date: 05/05/93
State: OR Township: 2S Range: 2E Section: 1
Sample Site: A-5-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: 16
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ANTHOXANTHUM ODORATUM*	FACU	40%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	30%	
Herb	*ROSA NUTKANA*	NI	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-120 Date: 05/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 11
Investigator: RAJ
Sample Site: A-7-1

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 4
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: LOW DEPRESSION AT DOWNSTREAM END OF LONG LOW DRAINAGE SWALE

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	25%
Herb	*ALOPECURUS PRATENSIS*	FACW	20%	
Herb	*CAREX OBNUPTA*	OBL	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	35%	
Herb	*VICIA SATIVA*	UPL	20%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 80%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-121 Date: 05/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 12
Investigator: RAJ
Sample Site: B-1-1

Soils

Mapped Series and Phase: BORNSTEDT SILT LOAM
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment: LOOSE, BRIGHT MATRIX TO 14"

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	60%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	40%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-122 Date: 05/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 12
Investigator: RAJ
Sample Site: B-1-2

Soils

Mapped Series and Phase: BORNSTEDT SILT LOAM
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: MASSIVE CLAYEY SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 12
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*ALOPECURUS GENICULATUS*	FACW+	30%	
Herb	*RANUNCULUS REPENS*	FACW	40%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment: LOCATED WITHIN 10' OF LARGE POND ON BENCH

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: RAJ
Project #: 92079-026 Date: 05/05/93
State: OR Township: 2S Range: 2E Section: 12
Sample Site: B-2-1

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 8
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: WETLAND DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*SALIX LASIANDRA*	FACW+	80%	20%
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	80%	10%
Herb	*ALOPECURUS PRATENSIS*	FACW	70%	
Herb	*CAREX SP.*	FACW	20%	70%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-123 Date: 05/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 12
Investigator: RAJ
Sample Site: B-2-2

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 4/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: VERY ROCKY/COBBLY; POSSIBLE FILL MATERIAL FROM HWY 212

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*CIRSIUM ARVENSE*	FACU+	20%	
Herb	*DACTYLIS GLOMERATA*	FACU	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	25%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 25%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-124 Date: 05/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 12
Investigator: RAJ
Sample Site: B-2-3

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 5/6
Hydric Soil Criteria met: YES
Comment: COBBLES PRESENT BUT NOT FREQUENT IN UPPER PART

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 6
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*JUNCUS EFFUSUS*	FACW+	50%	
Herb	*JUNCUS TENUIS*	FAC	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-025 Date: 05/06/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 12
Investigator: DRS/FES
Sample Site: B-3-1

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 8
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*CAREX X STIPATA*	OBL	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	60%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES
Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-027 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 12
Investigator: RAJ
Sample Site: B-3-2

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*POPULUS BALSAMIFERA*	FAC	100%	50%
Herb	*FESTUCA ARUNDINACEA*	FACU-	80%	
Herb	*LAMIUM PURPUREUM*	UPL	20%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-031 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 12
Investigator: DRS/FES Sample Site: B-4-1

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 2/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: SANDY IN PLACES (MAY BE PARTIAL FILL); H2S ODOR

Hydrology

Inundated: YES Depth: 4 " Saturated Soils: YES Depth to Water Table:
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	20%	
Herb	*ELEOCHARIS PALUSTRIS*	OBL	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*JUNCUS TENUIS*	FAC	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: RAJ
State: OR
Project #: 92079-028
Date: 05/05/93
Township: 2S
Range: 2E
Section: 12
Sample Site: B-4-2

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 4/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ANTHOXANTHUM ODORATUM*	FACU	30%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	70%	75%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	25%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-032
Township: 2S
Range: 2E
Section: 12
Date: 05/05/93
Sample Site: B-4-3

Soils

Mapped Series and Phase: HUBERLY SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color:
Mottles:
Hydric Soil Criteria met: YES
Comment: VARIEGATED SOILS AT DEPTH; SANDY FILL; NO DOM. MATRIX COLOR

Hydrology

Inundated: YES
Depth: 4 "
Saturated Soils: YES
Depth to Water Table:
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	80%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-033 Date: 07/16/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 10
Investigator: DRS/FES
Sample Site: B-13-1

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 4/4
Hydric Soil Criteria met: YES
Comment: SILTY LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: OBVIOUS DEPRESSION - DRAINAGE DITCH; FEEDS AREA FURTHER DOWNHILL

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS GENICULATUS*	FACW+	10%	
Herb	*BECKMANNIA SYZIGACHNE*	OBL	10%	
Herb	*ELEOCHARIS PALUSTRIS*	OBL	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	30%	
Herb	*PHALARIS ARUNDINACEA*	FACW	15%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment: THIS SITE HAS FILL ON EITHER SIDE PARALLELING SWALE

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-034 Date: 07/16/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 10
Investigator: DRS/FES
Sample Site: B-13-2

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: OBVIOUS PONDING, MUDCRACKS, ALGAL AND LEAF MATS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ELEOCHARIS OVATA*	OBL	10%	
Herb	*ELEOCHARIS PALUSTRIS*	OBL	30%	
Herb	*RORIPPA CURVISILIQUA*	FACW+	30%	
Herb	*RUMEX SALICIFOLIUS*	FACW	10%	
Herb	*VERONICA SP.*	FAC	10%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-103 Date: 08/13/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 9/10
Investigator: DG Sample Site: B-13-3

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM, 0-3% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*DACTYLIS GLOMERATA*	FACU	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	30%	
Herb	*HYPOCHAERIS RADICATA*	UPL	20%	
Herb	*TRIFOLIUM REPENS*	FACU+	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-035 Date: 07/16/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 9
Investigator: DRS/FES
Sample Site: B-14-1

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 10YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: OBVIOUS DITCH

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS ALBA*	FACW	20%	
Herb	*CAREX DENSA*	OBL	20%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-104 Date: 08/13/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 9
Investigator: DG
Sample Site: B-14-2

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 7.5YR 2/0
Mottles: NO
Hydric Soil Criteria met: YES
Comment: SILTY CLAY LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	60%	
Herb	*PLANTAGO LANCEOLATA*	FACU+	20%	
Herb	*TRIFOLIUM REPENS*	FACU+	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DG
State: OR
Project #: 92079-105
Township: 2S
Range: 2E
Section: 9
Date: 08/13/93
Sample Site: B-15-1

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM, 0-3% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 10YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: DRIED ALGAL MATS; EVIDENCE OF SEASONAL PONDING

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*FRAXINUS LATIFOLIA*	FACW	100%	5%
Herb	*PHALARIS ARUNDINACEA*	FACW	100%	95%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-106 Date: 08/13/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 9
Investigator: DG
Sample Site: B-15-2

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM, 0-3% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*CENTAUREA CYANUS*	UPL	50%	
Herb	*DACTYLIS GLOMERATA*	FACU	10%	
Herb	*PHLEUM PRATENSE*	FACU	10%	
Herb	*TRIFOLIUM PRATENSE*	FACU	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-130 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-1

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: YES
Mottle Color: 5YR 4/6
Hydric Soil Criteria met: YES
Comment: SILTY CLAY LOAM WITH SOME GRAVEL

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: BOTTOM OF DRAINAGE CHANNEL

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*CALLITRICHE STAGNALIS*	OBL	20%	
Herb	*OENANTHE SARMENTOSA*	OBL	10%	
Herb	*RORIPPA CURVISILIQUA*	FACW+	20%	
Herb	*RORIPPA NASTURTIUM-AQUATICUM*	OBL	40%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-131 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-2

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 2.5/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS MONOGYNA*	NI	100%	5%
Herb	*ARRHENATHERUM ELATIUS*	UPL	10%	
Herb	*CHRYSANTHEMUM LEUCANTHEMUM*	UPL	10%	
Herb	*DACTYLIS GLOMERATA*	FACU	10%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*FESTUCA RUBRA*	FAC	20%	
Herb	*VICIA SP.*	UPL	20%	95%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-132 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-3

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: YES
Mottle Color: 10YR 3/6
Hydric Soil Criteria met: YES
Comment: HEAVY CLAY CONTENT

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: OBVIOUS DRAINAGE SWALE INTO DITCH (WITHIN 30' OF DITCH)

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HYPOCHAERIS RADICATA*	UPL	10%	
Herb	*JUNCUS TENUIS*	FAC	30%	
Herb	*TRIFOLIUM PRATENSE*	FACU	10%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment: VEGETATION DISTURBED/SCRAPED/MOWED

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-133 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-4

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: HEAVY SILTY CLAY LOAM, OCCASIONAL GRAVEL/BRICK CHUNKS

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*HYPOCHAERIS RADICATA*	UPL	20%	
Herb	*TRIFOLIUM PRATENSE*	FACU	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment: DISTURBED/MOWED

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-134 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-5

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: WETLAND DRAINAGE PATTERN (SHALLOW SWALE)

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	30%	
Herb	*FESTUCA RUBRA*	FAC	20%	
Herb	*HYPOCHAERIS RADICATA*	UPL	10%	
Herb	*JUNCUS TENUIS*	FAC	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment: DISTURBED

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-135 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-6

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 2/1
Mottles: NO
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*DAUCUS CAROTA*	UPL	10%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*HOLCUS LANATUS*	FAC	10%	
Herb	*HYPOCHAERIS RADICATA*	UPL	10%	
Herb	*TRIFOLIUM REPENS*	FACU+	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-136 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-7

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: COBBLY SAND

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment: BOTTOM OF A DITCH

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*POPULUS TRICHOCARPA*	FAC	100%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-137 Date: 11/03/93
County: CLACKAMAS State: OR Township: 2E Range: 2S Section: 10
Investigator: FES/DG
Sample Site: B-17-8

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment: GRAVELLY SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*FRAXINUS LATIFOLIA*	FACW	100%	5%
Herb	*AGROPYRON TRACHYCAULUM*	FAC	10%	
Herb	*ARRHENATHERUM ELATIUS*	UPL	20%	
Herb	*DIPSACUS SYLVESTRIS*	NI	10%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*PHLEUM PRATENSE*	FACU	20%	95%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 20%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-125 Date: 04/16/90
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 4
Investigator: RAJ
Sample Site: B-20-1

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	20%	
Herb	*DIPSACUS SYLVESTRIS*	NI	80%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-126 Date: 04/16/90
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 4
Investigator: RAJ
Sample Site: B-20-2

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: HEAVY CLAY SOIL

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 8
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	35%	
Herb	*CAREX OBNUPTA*	OBL	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-127 Date: 04/16/90
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 4
Investigator: RAJ
Sample Site: B-20-3

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 2/1-3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 10
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment: OR'S HEAVY

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	30%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*JUNCUS TENUIS*	FAC	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-044 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-1-1

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 4
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	30%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*LOTUS CORNICULATUS*	FAC	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-045 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-1-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES
Comment: SLIGHT H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 6
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	40%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*LOTUS CORNICULATUS*	FAC	15%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 67%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-046
Date: 05/05/93
Township: 2S
Range: 2E
Section: 3
Sample Site: C-1-3

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 5YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS MONOGYNA*	FAC	20%	
Sapling/Shrub	*PYRUS MALUS*	UPL	20%	
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	50%	30%
Herb	*ANTHOXANTHUM ODORATUM*	FACU	20%	
Herb	*CIRSIUM ARVENSE*	FACU+	30%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	40%	70%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 17%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-047 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-1-4

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 2/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ANTHOXANTHUM ODORATUM*	FACU	15%	
Herb	*CIRSIUM ARVENSE*	FACU+	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	30%	
Herb	*GALIUM APARINE*	FACU	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-128 Date: 11/02/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 3
Investigator: RAJ
Sample Site: C-1-5

Soils

Mapped Series and Phase: DELENA SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: MOIST SURFACE, NOT QUITE SAT.

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	25%	
Herb	*JUNCUS EFFUSUS*	FACW+	25%	
Herb	*LOTUS CORNICULATUS*	FAC	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY Project #: 92079-129 Date: 11/02/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 3
Investigator: RAJ Sample Site: C-1-6

Soils

Mapped Series and Phase: DELENA SILT LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS TENUIS*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*LOTUS CORNICULATUS*	FAC	25%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-048 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-2-1

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 4/6
Hydric Soil Criteria met: YES

Comment: H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 3
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	50%
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	30%	
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	40%	
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	20%	40%
Herb	*ATHYRIUM FILIX-FEMINA*	FAC	20%	
Herb	*POA TRIVIALIS*	FACW-	70%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 83%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-049 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-2-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/4
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	45%	
Tree	*RHAMNUS PURSHIANA*	NI	45%	30%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	20%	
Sapling/Shrub	*OEMLARIA CERASIFORMIS*	UPL	20%	
Sapling/Shrub	*ROSA SP.*	NI	20%	
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	20%	30%
Herb	*CAREX DEWEYANA*	FAC+	25%	
Herb	*FRAGARIA VIRGINIANA*	UPL	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	20%	
Herb	*TELLIMA GRANDIFLORA*	UPL	20%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 22%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-050 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-3-1

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 5YR 5/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 2
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	50%	
Tree	*THUJA PLICATA*	FAC	40%	60%
Sapling/Shrub	*ALNUS RUBRA*	FAC	50%	
Sapling/Shrub	*RHAMNUS PURSHIANA*	NI	35%	20%
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*RANUNCULUS REPENS*	FACW	60%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-051 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-3-2

Soils

Mapped Series and Phase: DELENA SILT LOAM, 3-12% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 4/3
Mottles: NO
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*THUJA PLICATA*	FAC	90%	50%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	90%	30%
Herb	*POLYSTICHUM MUNITUM*	UPL	60%	
Herb	*TRILLIUM OVATUM*	NI	20%	15%
Woody Vine	*RUBUS URSINUS*	NI	80%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-053 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-4-1

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 4/1-4/2
Mottles: YES
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 8
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CORNUS STOLONIFERA*	FACW	90%	5%
Herb	*ATHYRIUM FILIX-FEMINA*	FAC	20%	
Herb	*CAREX DEWEYANA*	FAC+	20%	
Herb	*RANUNCULUS REPENS*	FACW	30%	
Herb	*TOLMIEA MENZIESII*	FAC	20%	70%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	25%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 83%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-052 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-4-2

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 7.5YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	30%	
Tree	*ALNUS RUBRA*	FAC	70%	20%
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	30%	
Sapling/Shrub	*RUBUS URSINUS*	NI	70%	60%
Herb	*CAREX DEWEYANA*	FAC+	40%	
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*POLYSTICHUM MUNITUM*	UPL	30%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-054 Date: 05/05/93
Township: 2S Range: 2E Section: 3
Sample Site: C-5-1

Soils

Mapped Series and Phase: XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: GRAVEL, STICKY

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 2
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	20%	
Tree	*THUJA PLICATA*	FAC	80%	50%
Sapling/Shrub	*CRATAEGUS SP.*	UPL	20%	
Sapling/Shrub	*RUBUS SPECTABILIS*	FAC	70%	20%
Herb	*ATHYRIUM FILIX-FEMINA*	FAC	40%	
Herb	*RANUNCULUS REPENS*	FACW	40%	30%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 83%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-055 Date: 05/05/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-5-2

Soils

Mapped Series and Phase: XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Matrix Color: 7.5YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	100%	10%
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	20%	
Sapling/Shrub	*RUBUS SPECTABILIS*	FAC	20%	
Sapling/Shrub	*RUBUS URSINUS*	NI	60%	60%
Herb	*GALIUM APARINE*	FACU	35%	
Herb	*POLYSTICHUM MUNITUM*	UPL	20%	
Herb	*TELLIMA GRANDIFLORA*	UPL	25%	30%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 17%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS/FES
State: OR
Project #: 92079-058
Date: 05/24/93
Township: 2S
Range: 2E
Section: 3
Sample Site: C-7-3

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 7.5YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*THUJA PLICATA*	FAC	100%	25%
Sapling/Shrub	*RUBUS DISCOLOR*	FACU-	100%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-057 Date: 05/24/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-7-2

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: MIXED WITH 7.5YR 3/4; ROCKY FILL MATERIAL

Hydrology

Inundated: YES Depth: 2 " Saturated Soils: YES Depth to Water Table:
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: INUNDATION IN POCKETS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*JUNCUS BUFONIUS*	FACW+	80%	
Herb	*POLYGONUM SP.*	FAC	5%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-056 Date: 05/24/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 3
Investigator: DRS/FES
Sample Site: C-7-1

Soils

Mapped Series and Phase: CASCADE SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 4
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*SALIX SCOULERIANA*	FAC	100%	20%
Herb	*GLYCERIA ELATA*	FACW+	40%	
Herb	*SCIRPUS MICROCARPUS*	OBL	50%	80%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-066 Date: 11/18/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 1
Investigator: RAJ/FES
Sample Site: C-8-1

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color:
Mottles:
Hydric Soil Criteria met: YES
Comment: SOILS NOT SAMPLED; OBVIOUS HYDRIC SOIL CONDITIONS

Hydrology

Inundated: YES Depth: 1 " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment: STANDING WATER > OR = 1" OVER MOST OF SITE

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS GENICULATUS*	FACW+	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*VERONICA AMERICANA*	OBL	30%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment: UPLAND EDGE DEFINED BY ABRUPT TOPOGRAPHIC RISE

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY Project #: 92079-074 Date: 06/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: DRS Sample Site: D-1-1

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: YES Mottle Color: 5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment: SOME STANDING WATER; WETLAND DRAINAGE PATTERNS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS STOLONIFERA*	FAC+	10%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS BUFONIUS*	FACW+	10%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*SCIRPUS MICROCARPUS*	OBL	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-075 Date: 06/16/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: DRS
Sample Site: D-1-2

Soils

Mapped Series and Phase: POWELL SILT LOAM, 0-8% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 4/4
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*CIRSIUM ARVENSE*	FACU+	20%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	10%	
Herb	*POA PRATENSIS*	FACU+	10%	
Herb	*RANUNCULUS REPENS*	FACW	20%	
Herb	*TRIFOLIUM REPENS*	FACU+	20%	90%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 25%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-083 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: FES/DRS
Sample Site: D-3-1

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: YES
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 6
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ALOPECURUS PRATENSIS*	FACW	20%	
Herb	*CAREX ATHROSTACHYA*	FACW	25%	
Herb	*HOLCUS LANATUS*	FAC	10%	
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*RANUNCULUS REPENS*	FACW	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-085 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: FES/DRS
Sample Site: D-3-2

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment: LEAF MATS; WET. DRAINAGE PAT.; VEG. MOUND. DUE TO SEASONAL INUND.

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	20%
Sapling/Shrub	*FRAXINUS LATIFOLIA*	FACW	100%	15%
Herb	*GEUM MACROPHYLLUM*	FACW+	20%	
Herb	*POA TRIVIALIS*	FACW-	30%	
Herb	*RANUNCULUS REPENS*	FACW	30%	65%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-084 Date: 05/24/93
State: OR Township: 1S Range: 2E Section: 36
Sample Site: D-3-3

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 7.5YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS SP.*	UPL	40%	
Sapling/Shrub	*ROSA SP.*	NI	40%	20%
Herb	*ANTHOXANTHUM ODORATUM*	FACU	40%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	40%	80%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-079 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: FES/DRS Sample Site: D-3-4

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: YES Mottle Color: 5YR 3/3
Hydric Soil Criteria met: YES

Comment: H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 5
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	30%	
Sapling/Shrub	*ROSA SP.*	NI	40%	40%
Herb	*CAREX X STIPATA*	OBL	20%	
Herb	*HOLCUS LANATUS*	FAC	25%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*POA PRATENSIS*	FACU+	20%	60%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 80%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-080 Date: 05/24/93
State: OR Township: 1S Range: 2E Section: 36
Sample Site: D-3-5

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1
Mottle Color: 5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: SOME PONDING

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*GEUM MACROPHYLLUM*	FACW+	15%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*SCIRPUS MICROCARPUS*	OBL	60%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-082 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: FES/DRS
Sample Site: D-3-6

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4.5/2
Mottle Color: 5YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	50%	
Sapling/Shrub	*CRATAEGUS SP.*	UPL	50%	40%
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*GERANIUM CAROLINIANUM*	UPL	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	30%	55%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 43%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-081 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: FES/DRS
Sample Site: D-3-7

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/1-3/2
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 7
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	30%	
Sapling/Shrub	*CRATAEGUS SP.*	UPL	30%	
Sapling/Shrub	*ROSA SP.*	NI	30%	80%
Herb	*CHRYSANTHEMUM LEUCANTHEMUM*	UPL	20%	
Herb	*HOLCUS LANATUS*	FAC	65%	15%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 40%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-077 Date: 05/24/93
County: CLACKAMAS State: OR Township: 1S Range: 2E Section: 36
Investigator: DRS
Sample Site: D-3-8

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2-4/2
Mottle Color: 10YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: YES Depth: " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*EQUISETUM ARVENSE*	FAC	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*POA TRIVIALIS*	FACW-	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: DRS
State: OR
Project #: 92079-076
Date: 05/24/93
Township: 1S
Range: 2E
Section: 36
Sample Site: D-3-9

Soils

Mapped Series and Phase: BORGES SILTY CLAY LOAM, 0-8% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*ROSA SP.*	NI	100%	20%
Herb	*FESTUCA ARUNDINACEA*	FACU-	80%	60%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-086 Date: 06/29/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 6
Investigator: FES/DRS
Sample Site: F-1-1

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 6
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*EQUISETUM ARVENSE*	FAC	20%	
Herb	*GLYCERIA SP.*	OBL	20%	
Herb	*RANUNCULUS REPENS*	FACW	20%	
Herb	*SCIRPUS MICROCARPUS*	OBL	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-087 Date: 06/29/93
State: OR Township: 2S Range: 2E Section: 6
Sample Site: F-1-2

Soils

Mapped Series and Phase: WOODBURN SILT LOAM, 3-8% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 10YR 3/3
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*DACTYLIS GLOMERATA*	FACU	20%	
Herb	*EQUISETUM ARVENSE*	FAC	20%	
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*LAPSANA COMMUNIS*	UPL	10%	
Herb	*TELLIMA GRANDIFLORA*	UPL	10%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-101 Date: 07/28/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: FES/DRS
Sample Site: F-2-1

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3/1
Mottles: YES
Mottle Color: 5YR 4/4
Hydric Soil Criteria met: YES

Comment: SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: EVIDENCE OF EARLY SPRING PONDING

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*BIDENS CERNUA*	FACW+	20%	
Herb	*ELEOCHARIS PALUSTRIS*	OBL	20%	
Herb	*LOTUS CORNICULATUS*	FAC	30%	
Herb	*POLYGONUM PERSICARIA*	FACW	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-102 Date: 07/28/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: FES/DRS
Sample Site: F-2-2

Soils

Mapped Series and Phase: KINTON SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED Matrix Color: 10YR 3/3-3/4
Mottles: NO
Hydric Soil Criteria met: NO
Comment: SILT LOAM

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS ALBA*	FACW	20%	
Herb	*DACTYLIS GLOMERATA*	FACU	20%	
Herb	*FRAXINUS LATIFOLIA*	FACW	20%	
Herb	*LOTUS CORNICULATUS*	FAC	20%	80%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 60%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-088 Date: 06/29/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: FES/DRS
Sample Site: F-2-3

Soils

Mapped Series and Phase: CLACKAMAS SILT LOAM
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED
Matrix Color: 10YR 3.5/1
Mottles: YES
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES
Comment: FEW COBBLES

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*LOTUS CORNICULATUS*	FAC	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	70%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-089 Date: 06/29/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: FES/DRS
Sample Site: F-2-4

Soils

Mapped Series and Phase: KINTON SILT LOAM, 8-15% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED Matrix Color: 10YR 3/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: BLOCKY MIX WITH 10YR 3/2 AND 10YR 3/3

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	50%	
Tree	*CRATAEGUS DOUGLASII*	FAC	20%	
Tree	*MALUS FUSCA*	FAC+	20%	60%
Sapling/Shrub	*SYMPHORICARPOS ALBUS*	FACU	90%	15%
Herb	*LAPSANA COMMUNIS*	UPL	40%	
Herb	*POLYSTICHUM MUNITUM*	UPL	40%	10%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	15%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 43%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: JVS/DRS
State: OR
Project #: 92079-114
Township: 2S
Range: 2E
Section: 8
Date: 11/01/91
Sample Site: F-2-5

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 2/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: BELOW 11" 10YR 5/2 WITH 10YR 5/6 MOTTLES

Hydrology

Inundated: NO
Depth: "
Saturated Soils: NO
Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*SALIX SP.*	FAC	100%	10%
Herb	*PHALARIS ARUNDINACEA*	FACW	100%	90%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-115 Date: 11/01/91
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: JVS/DRS
Sample Site: F-2-6

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 7.5YR 2/0
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	20%
Herb	*PHALARIS ARUNDINACEA*	FACW	100%	80%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES
Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-116 Date: 11/01/91
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: JVS/DRS
Sample Site: F-2-7

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 10YR 2/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	90%	25%
Herb	*PHALARIS ARUNDINACEA*	FACW	100%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-117 Date: 11/01/91
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: JVS/DRS
Sample Site: F-2-8

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/2
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	5%
Sapling/Shrub	*CRATAEGUS SP.*	UPL	50%	
Sapling/Shrub	*ROSA SP.*	NI	50%	5%
Herb	*AGROPYRON REPENS*	FACU	35%	
Herb	*CIRSIUM ARVENSE*	FACU+	10%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*GALIUM APARINE*	FACU	15%	35%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	55%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 20%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-118 Date: 11/01/91
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: JVS/DRS
Sample Site: F-2-9

Soils

Mapped Series and Phase: WAPATO SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 4/2
Mottle Color: 7.5YR 4/4
Hydric Soil Criteria met: YES
Comment: MIXED SOIL; ALSO FOUND 10YR 3/3

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*DACTYLIS GLOMERATA*	FACU	25%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	35%	
Herb	*HOLCUS LANATUS*	FAC	10%	55%
Woody Vine	*RUBUS DISCOLOR*	FACU-	70%	
Woody Vine	*RUBUS URSINUS*	NI	30%	45%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-119 Date: 11/01/91
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 8
Investigator: JVS/DRS
Sample Site: F-2-10

Soils

Mapped Series and Phase: WOODBURN SILT LOAM, 3-8% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED
Mottles: YES
Matrix Color: 10YR 4/2
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment: UPPER 8" 10YR 3/3 NO MOTTLES

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ANTHOXANTHUM ODORATUM*	FACU	10%	
Herb	*DACTYLIS GLOMERATA*	FACU	45%	
Herb	*FESTUCA ARUNDINACEA*	FACU-	20%	
Herb	*HOLCUS LANATUS*	FAC	10%	85%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	15%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-090 Date: 07/07/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 1
Investigator: FES/DRS
Sample Site: F-3-1

Soils

Mapped Series and Phase: XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Matrix Color: 10YR 3/2
Mottles: YES
Mottle Color: 7.5YR 3/3
Hydric Soil Criteria met: YES

Comment: VERY HARD TO DIG, LOTS OF ROCK

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 6
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*ATHYRIUM FILIX-FEMINA*	FAC	10%	
Herb	*GEUM MACROPHYLLUM*	FACW+	10%	
Herb	*RANUNCULUS REPENS*	FACW	60%	
Herb	*URTICA DIOICA*	FAC+	10%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-091 Date: 07/07/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 1
Investigator: FES/DRS
Sample Site: F-3-2

Soils

Mapped Series and Phase: XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	50%	
Tree	*THUJA PLICATA*	FAC	50%	10%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	20%	
Sapling/Shrub	*ILEX AQUIFOLIUM*	UPL	20%	
Sapling/Shrub	*THUJA PLICATA*	FAC	40%	15%
Herb	*DISPORUM HOOKERI*	UPL	20%	
Herb	*HYDROPHYLLUM TENUIPES*	UPL	30%	
Herb	*POLYSTICHUM MUNITUM*	UPL	20%	
Herb	*TELLIMA GRANDIFLORA*	UPL	20%	30%
Woody Vine	*HEDERA HELIX*	UPL	50%	
Woody Vine	*RUBUS DISCOLOR*	FACU-	50%	45%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 18%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-094 Date: 06/30/92
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: FES/DRS
Sample Site: G-1-1

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM, 0-2% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED Matrix Color: 7.5YR 2/0
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment: LEAF MATS

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	20%	
Sapling/Shrub	*CRATAEGUS MONOGYNA*	FAC	20%	
Sapling/Shrub	*ROSA SP.*	NI	20%	
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	20%	55%
Herb	*CAREX SP.*	FACW	20%	
Herb	*HOLCUS LANATUS*	FAC	30%	
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*VICIA SATIVA*	UPL	20%	40%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	5%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 71%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-093 Date: 06/30/93
State: OR Township: 2S Range: 2E Section: 18
Sample Site: G-1-2

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM, 0-2% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 7.5YR 2/0
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: LEAF MATS; HUMMOCKY

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	20%	
Sapling/Shrub	*FRAXINUS LATIFOLIA*	FACW	40%	
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	40%	60%
Herb	*AGROSTIS TENUIS*	FAC	15%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*VICIA HIRSUTA*	UPL	20%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 83%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-092 Date: 06/30/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: FES/DRS
Sample Site: G-1-3

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM, 0-2% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 7.5YR 3/1
Mottles: YES
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment: H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 1
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*OENANTHE SARMENTOSA*	OBL	20%	
Herb	*RANUNCULUS REPENS*	FACW	35%	
Herb	*TYPHA LATIFOLIA*	OBL	20%	
Herb	*VERONICA AMERICANA*	OBL	20%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-095 Date: 06/30/93
State: OR Township: 2S Range: 2E Section: 18
Sample Site: G-1-4

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM, 0-2% SLOPES
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 4/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	50%	
Tree	*QUERCUS GARRYANA*	UPL	50%	25%
Herb	*LAPSANA COMMUNIS*	UPL	50%	
Herb	*RANUNCULUS REPENS*	FACW	20%	25%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 40%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-138 Date: 07/06/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: RAJ
Sample Site: G-1-5

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 3/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*CORYLUS CORNUTA*	NI	20%	
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	70%	60%
Herb	*POLYSTICHUM MUNITUM*	UPL	50%	
Herb	*TELLIMA GRANDIFLORA*	UPL	40%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-139 Date: 07/06/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: RAJ
Sample Site: G-1-6

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Matrix Color: 10YR 2/1
Mottles: NO
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*CRATAEGUS DOUGLASII*	FAC	70%	
Tree	*FRAXINUS LATIFOLIA*	FACW	20%	50%
Herb	*JUNCUS EFFUSUS*	FACW+	10%	
Herb	*ROSA PISOCARPA*	FACU	40%	40%
Woody Vine	*RUBUS DISCOLOR*	FACU-	60%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-140 Date: 07/06/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: RAJ
Sample Site: G-1-7

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 2/1
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES
Comment: ALGAE; WATER-STAINED LEAVES

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*CRATAEGUS DOUGLASII*	FAC	30%	
Tree	*FRAXINUS LATIFOLIA*	FACW	70%	30%
Sapling/Shrub	*CRATAEGUS DOUGLASII*	FAC	60%	
Sapling/Shrub	*SPIRAEA DOUGLASII*	FACW	40%	30%
Herb	*CAREX OBNUPTA*	OBL	60%	
Herb	*PHALARIS ARUNDINACEA*	FACW	40%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-141 Date: 07/06/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: RAJ Sample Site: G-1-8

Soils

Mapped Series and Phase: COVE SILTY CLAY LOAM
On Hydric Soils List: YES
Drainage Class: POORLY DRAINED
Mottles: YES
Matrix Color: 10YR 3/3-4/3
Mottle Color: 10YR 5/6
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Sapling/Shrub	*OEMLARIA CERASIFORMIS*	UPL	50%	10%
Herb	*PHALARIS ARUNDINACEA*	FACW	100%	75%
Woody Vine	*RUBUS DISCOLOR*	FACU-	60%	15%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 33%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-096 Date: 06/30/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: FES/DRS
Sample Site: G-3-1

Soils

Mapped Series and Phase: WOODBURN SILT LOAM, 3-8% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED
Mottles: YES
Matrix Color: 10YR 4/1
Mottle Color: 10YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*FESTUCA ARUNDINACEA*	FACU-	80%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 0%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-097 Date: 06/30/93
County: CLACKAMAS State: OR Township: 2S Range: 2E Section: 18
Investigator: FES/DRS
Sample Site: G-3-2

Soils

Mapped Series and Phase: WOODBURN SILT LOAM, 3-8% SLOPES
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED Matrix Color: 10YR 3.5/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS ALBA*	FACW	20%	
Herb	*HOLCUS LANATUS*	FAC	25%	
Herb	*PHALARIS ARUNDINACEA*	FACW	35%	100%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY Project #: 92079-112 Date: 08/18/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 1
Investigator: DG Sample Site: H1-1

Soils

Mapped Series and Phase: ALOHA SILT LOAM, 3-6% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/1
Mottles: YES Mottle Color: 10YR 3/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 3
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*SALIX LASIANDRA*	FACW+	100%	50%
Herb	*HOLCUS LANATUS*	FAC	20%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY Project #: 92079-113 Date: 08/18/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 1
Investigator: DG Sample Site: H1-2

Soils

Mapped Series and Phase: ALOHA SILT LOAM, 3-6% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ALNUS RUBRA*	FAC	100%	50%
Woody Vine	*HEDERA HELIX*	UPL	90%	
Woody Vine	*RUBUS DISCOLOR*	FACU-	10%	50%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-099 Date: 07/07/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 2
Investigator: FES/DRS
Sample Site: H-2-1

Soils

Mapped Series and Phase: ALOHA SILT LOAM, 3-6% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3.5/1
Mottles: NO
Hydric Soil Criteria met: YES
Comment: H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 10
Active Oxidized Rhizospheres Present: YES Wetland Hydrology Criteria met: YES
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*SALIX SP.*	FAC	100%	25%
Herb	*GLYCERIA SP.*	OBL	20%	
Herb	*RANUNCULUS REPENS*	FACW	50%	
Herb	*SCIRPUS MICROCARPUS*	OBL	20%	75%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 100%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-100 Date: 07/07/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 2
Investigator: FES/DRS
Sample Site: H-2-2

Soils

Mapped Series and Phase: ALOHA SILT LOAM, 3-6% SLOPES
On Hydric Soils List: NO
Drainage Class: SOMEWHAT POORLY DRAINED Matrix Color: 10YR 3/2-3/3
Mottles: NO
Hydric Soil Criteria met: NO
Comment: VERY ROCKY

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*CONVOLVULUS ARVENSIS*	UPL	25%	
Herb	*EQUISETUM ARVENSE*	FAC	20%	
Herb	*GALIUM APARINE*	FACU	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	80%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 40%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-109 Date: 08/03/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 11
Investigator: FES/DRS Sample Site: H-3-1

Soils

Mapped Series and Phase: CHEHALIS SILT LOAM
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Mottles: YES
Matrix Color: 7.5YR 2/0
Mottle Color: 7.5YR 4/6
Hydric Soil Criteria met: YES

Comment: H2S ODOR

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: 14
Active Oxidized Rhizospheres Present: YES
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*FRAXINUS LATIFOLIA*	FACW	100%	30%
Sapling/Shrub	*FRAXINUS LATIFOLIA*	FACW	100%	25%
Herb	*GEUM MACROPHYLLUM*	FACW+	20%	
Herb	*GLYCERIA ELATA*	FACW+	20%	
Herb	*RANUNCULUS REPENS*	FACW	50%	15%
Woody Vine	*HEDERA HELIX*	UPL	70%	
Woody Vine	*SOLANUM DULCAMARA*	FAC	30%	30%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 86%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-110 Date: 08/03/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 11
Investigator: FES/DRS
Sample Site: H-3-2

Soils

Mapped Series and Phase: CHEHALIS SILT LOAM
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Matrix Color: 10YR 4/2
Mottles: NO
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	30%	
Tree	*FRAXINUS LATIFOLIA*	FACW	70%	65%
Sapling/Shrub	*CORYLUS CORNUTA*	NI	90%	20%
Herb	*POLYSTICHUM MUNITUM*	UPL	100%	5%
Woody Vine	*HEDERA HELIX*	UPL	100%	10%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 25%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
County: CLACKAMAS
Investigator: FES/DRS
Project #: 92079-111 Date: 08/03/93
State: OR Township: 2S Range: 1E Section: 11
Sample Site: H-3-3

Soils

Mapped Series and Phase: CHEHALIS SILT LOAM
On Hydric Soils List: NO
Drainage Class: WELL DRAINED
Mottles: NO
Matrix Color: 10YR 3/2
Hydric Soil Criteria met: NO
Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO
Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Tree	*ACER MACROPHYLLUM*	FACU	15%	
Tree	*FRAXINUS LATIFOLIA*	FACW	70%	10%
Sapling/Shrub	*ACER CIRCINATUM*	FACU+	100%	10%
Herb	*ATHYRIUM FILIX-FEMINA*	FAC	30%	
Herb	*GEUM MACROPHYLLUM*	FACW+	30%	
Herb	*RANUNCULUS REPENS*	FACW	30%	40%
Woody Vine	*HEDERA HELIX*	UPL	30%	
Woody Vine	*RUBUS DISCOLOR*	FACU-	40%	
Woody Vine	*SOLANUM DULCAMARA*	FAC	25%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 63%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

SRI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-107 Date: 08/03/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 2
Investigator: FES/DRS
Sample Site: H-5-1

Soils

Mapped Series and Phase: WOODBURN SILT LOAM
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED
Mottles: YES
Matrix Color: 10YR 3/3
Mottle Color: 10YR 4/6
Hydric Soil Criteria met: NO

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: NO Depth to Water Table: >18
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: NO

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*AGROSTIS ALBA*	FACW	20%	
Herb	*HOLCUS LANATUS*	FAC	20%	
Herb	*PHLEUM PRATENSE*	FACU	10%	
Herb	*VICIA SATIVA*	UPL	20%	60%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	40%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 50%
Hydrophytic Vegetation Criteria met: NO

Comment:

Determination: **Non-Wetland**

Comment:

WETLAND DELINEATION DATA FORM

RI/SHAPIRO

Routine Onsite Method

Applicant: CLACKAMAS COUNTY
Project #: 92079-108 Date: 08/03/93
County: CLACKAMAS State: OR Township: 2S Range: 1E Section: 2
Investigator: FES/DRS
Sample Site: H-5-2

Soils

Mapped Series and Phase: WOODBURN SILT LOAM
On Hydric Soils List: NO
Drainage Class: MODERATELY WELL DRAINED
Matrix Color: 10YR 3/1
Mottles: YES
Mottle Color: 10YR 4/4
Hydric Soil Criteria met: YES

Comment:

Hydrology

Inundated: NO Depth: " Saturated Soils: YES Depth to Water Table: SURF
Active Oxidized Rhizospheres Present: NO
Wetland Hydrology Criteria met: YES

Comment:

Vegetation

Type	Dominant Species	FWS Status	Stratum	Overall
Herb	*JUNCUS EFFUSUS*	FACW+	20%	
Herb	*PHALARIS ARUNDINACEA*	FACW	20%	
Herb	*TYPHA LATIFOLIA*	OBL	40%	80%
Woody Vine	*RUBUS DISCOLOR*	FACU-	100%	20%

Percentage of dominant (>= 20%) species that are FAC, FACW or OBL: 75%
Hydrophytic Vegetation Criteria met: YES

Comment:

Determination: **Wetland**

Comment:

APPENDIX B

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
FUNCTIONAL VALUE 1 ECOLOGICAL INTEGRITY		
1. Percent of wetland having very poorly drained soils or Hydric A soils and/or open water.	a. More than 50 percent	1
	b. From 25 to 50 percent	0.5
	c. Less than 25 percent	0.1
2. Dominant land use zoning of wetland (see town zoning map). Use current land use if different from what is zoned.	a. Agriculture, forestry, or similar open space zoning	1
	b. Rural residential	0.5
	c. Commercial/industrial, high density residential	0.1
3. Water quality of the water-course, pond, or lake associated with the wetland.	a. Flowing	1
	b. Seasonally flushed	0.5
	c. Stagnant	0.1
Percentage of developed land including roads, buildings, paved surfaces, within 500 feet of the wetland edge to the total area of the wetland (acres).	a. < 10%	1
	b. From 1 bldg: 10 acres to 1 bldg: 2 acres (0.10–0.50); 10–50%	0.5
	c. More than 1 bldg: 2 acres (>0.5) >50%	0.1
5. Percent of original wetland filled.	a. Less than 10 percent	1
	b. From 10 to 50 percent	0.5
	c. More than 50 percent	0.1
6. Percent of wetland edge bordered by a buffer of woodland or idle land at least 500 feet in width.	a. More than 80 percent	1
	b. From 20 to 80 percent	0.5
	c. Less than 20 percent	0.1
7. Level of human activity WITHIN WETLAND as evidenced by litter, bike trails, roads, residences, etc.	a. Low level: Few trails in use and/or sparse litter	1
	b. Moderate level: Some used trails, roads, etc.	0.5
	c. High level: Many trails, roads, etc. within wetland	0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
8. Level of human activity IN UPLAND within 500 feet of the wetland edge as evi-denced by litter, bike trails, roads, residences, etc.	a. Low level: Few trails in use and/or sparse litter	1
	b. Moderate level: Some trails, scattered residences, etc,	0.5
	c. High level: Many trails, roads, etc. within upland.	0.1
9. Percent of wetland plant community presently being altered by mowing, grazing, farming, or other activity. (Include areas now dominated by phragmites or purple loosestrife).	a. Less than 10 percent	1
	b. From 10 to 50 percent	0.5
	c. More than 50 percent	0.1
10. Percent of wetland actively being drained for agriculture or other purposes.	a. Less than 10 percent	1
	b. From 10 to 50 percent	0.5
	c. More than 50 percent	0.1
11. Number of public road and/or railroad crossings per 500 feet of wetland (measured along long axis of wetland).	a. None	1
	b. One or fewer	0.5
	c. Two or more	0.1
12. Long-term stability.	a. Wetland appears to be naturally occurring, not impounded by dam or dike.	1
	b. Wetland appears to be somewhat dependent on artificial diking by dam, road, fill, etc.	0.5
FUNCTIONAL VALUE 2 WILDLIFE HABITAT		
1. Ecological integrity	Average from Functional Value	--
2. Area of shallow permanent open water (less than 6 feet deep) including streams in or adjacent to wetland.	a. More than 3 acres	1
	b. From 0.5 to 3 acres	0.5
	c. Less than 0.5 acres	0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
3. Dominant land use in watershed above wetland.	a. woodland, wetland, or abandoned farmland.	1
	b. Recently harvested woodland	0.75
	c. Active farmland or rural residential	0.5
	d. Urban and heavily developed suburban areas.	0.1
4. Water quality of the watercourse, land or pond associated with the wetland.	From question FV1.3	--
5. Wetland diversity.	a. Three or more wetland classes (NWI) present.	1
	b. Two wetland classes present.	0.5
	c. One wetland class present.	0.1
6. Dominant wetland class.	a. Forested and/or scrubshrub wetland.	0.5
	b. Palustrine emergent wetland and/or shallow open water.	0.1
	c. Palustrine emergent wet meadow.	1
7. Interspersion of vegetation classes and/or open water.	a. At lease two wetland classes highly interspersed. Areas of each class scattered within wetland like a patchwork quilt.	1
	b. Moderate interspersion of wetland classes.	0.5
	c. Low degree of interspersion. Each wetland class is more or less contiguous and seperate from the other classes.	0.1
8. Wetland connectiveness	a. Wetland connected to other wetlands within 1 mile radius by perennial stream or lake	1
	b. Wetland connected to other wetlands within a 1 to 3 mile radius by	0.5

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
	perennial stream or lake, OR other unconnected wetlands are present within a 1 mile radius	
	c. Wetland not hydrologically connected to other wetlands within 3 miles and no other unconnected wetlands within 1 mile	0.1
9. Number of islands or inclusions of upland within wetland.	a. Two or more	1
	b. One	0.5
	c. None	0.1
8 Wildlife access to other wetlands (overland). Travel lanes should be 150 feet wide.	a. Free wildlife species access along well vegetated stream corridor, woodland, or lakeshore	1
	b. Access partially blocked by roads, urban areas, or other obstructions	0.5
	c. Access blocked by roads, urban areas, or other obstructions	0.1
11. Percent of wetland edge bordered by upland wildlife habitat (brush, woodland, or idle land) at least 150 feet in width	a. More than 40%	1
	b. From 10 to 40 percent	0.5
	c. Less than 10%	0.1
12. Timing of water availability	a. All of the time	1
	b. In the fall, winter and spring	0.5
	c. Only in the winter	0.1
13. Structural diversity	a. Three or more layers (strata)	1
	b. Two layers	0.5
	c. One layer	0.1
14. Slope of wetland/upland boundary	a. Less than 20% slope	1
	b. Greater than 20% slope	0.5
FUNCTIONAL VALUE 4 WETLAND ATTRIBUTE -- EDUCATIONAL POTENTIAL		
1. Ecological Integrity	Average of FV1	--

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
2. Presence or potential of a nature preserve or wildlife management area or educational site	a. Wetland within an organized nature preserve or wildlife management area or other designated area.	1
	b. Wetland in a conservation easement or district but not under active management or adjacent to a wildlife management area.	0.05
	c. Area not under such management, or areas closed to public uses.	0.1
3. Transitional area from parking area or school to wetland site.	a. Moderate walking distance to educational site that allows learner transitional time.	1
	b. Wetland within close proximity, or a suitable parking area is in close proximity to the educational site.	0.5
	c. No parking, too far to walk.	0.1
4. Number of wetland classes (NWI) accessible for study at potential educational site.	From FV2.5	--
5. Access to other landscape features, such as a perennial stream, forests, agricultural lands, lakes, or pond at the site.	a. Direct access available	1
	b. Access can be created	0.66
	c. Access not feasible	0.33
	d. Access would adversly impact landscape feature	0.1
6. Public or Student safety	a. No known safety hazards such as busy roads, steep embankments, environmental hazards, septic contamination, etc. at site.	1
	b. One or more safety hazards which could be overcome at moderate expense	0.5
	c. Obvious safety hazards which would be difficult and/or expensive to overcome.	0.1
7. Public access to potential educational site.	a. Some public access by general public, but at a controlled level which will	1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
	not interfere with the study area.	
	b. Public access prohibited or strictly controlled.	0.5
	c. Unlimited public access that cannot easily by controlled and which would likely interfere with study area or equipment.	0.1
8. Visual/aesthetic quality of potential educational site.	a. No major detractors or detractors could be removed.	1
	b. Some detractors present which could not easily be removed.	0.5
	c. Major detractors which could not easily be removed.	0.1
9. Handicap accessibility	a. Yes	1
	b. Could be created	0.5
	c. No, not possible	0
FUNCTIONAL VALUE 5 VISUAL/AESTHETIC QUALITY		
1. Number of wetland classes (NWI) visible from primary viewing locations (s). (see FV 2.5)	a. Three or more classes	1
	b. Two classes	0.5
	c. One class	0.1
2. Dominant wetland class visible from primary viewing location(s).	a. Low growing wetlands such as marshes, bogs, and open water, or scrub–shrub having vegetation < 3ft. in height.	1
	b. Wet meadow	0.5
	c. Forested, scrub–shrub	0.1
3. Noise level at primary viewing location(s).	a. Low: Birds, wildlife and other naturally occuring sounds predominate.	1
	b. Moderate: Some traffic or other noise audible.	0.5
	c. Loud: Continuous traffic, factories, or similar noise.	0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
4. Odors present at primary viewing location(s).	a. Natural odors only (Note: some natural odors may be unpleasant)	1
	b. Unnatural odors present at certain times such as auto exhaust or a sewage treatment plant.	0.5
	c. Unnatural odors distinct, more or less continuous and noticeable unpleasant.	0.1
5. Approximate extent of open water visible (in wetland) from primary viewing location(s).	a. More than 3 acres of open water, or more than 300 feet of a stream.	1
	b. From 1 to 3 acres of open water, or 100–300 feet of a stream	0.5
	c. Less than 1 acre of open water, or less than 100 feet of a stream.	0.1
6. General appearance of the wetland and surrounding land use(s) visible from primary viewing location(s).	a. Undisturbed and natural. No visual detractors present such as litter, abandoned cars, etc., or if such are present, they can be easily corrected.	1
	b. Limited disturbance in and/or around wetland. Minor visual detractors present and difficult to correct.	0.5
	c. Severe detractors present and difficult to correct	0.1
7. Landform contrast.	a. Wetland provides dramatic visual contrast with surrounding topography.	1
	b. Wetland provides some visual contrast with surrounding topography.	0.5
	c. Wetland provides little or no visual contrast with surrounding topography	0.1
8. Dominant surrounding land use visible from primary viewing location(s).	a. Woodland, agricultural land, and/or well–landscaped residential or commercial areas.	1
	b. Other residential and commercial areas of ordinary visual quality.	0.5
	c. Urban and built up areas of low visual quality.	0.1
9. Wetland wildlife habitat.	Average FV from Functional Value 2	--

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
FUNCTIONAL VALUE 7 **FLOOD CONTROL POTENTIAL**		
1. Type of wetland	Freshwater Estuarine/Marine	1 0.1
2. Wetland area as percent of catchment area	50% or more Between 25% and 50% Less than 25%	1 0.5 0.1
3. Dominant soil of wetland	– – Soil has high to moderate infiltration rate (Hydrologic group A or B). – – Soil has slow to very slow infiltration rate (Hydrologic group C or D) or is permanently inundated.	1 0.1
4. Outlet associated with wetland	– – Wetland has no outlet, or outlet blocked or regulated by permanent dam. – – Outlet has intermittent flow. – – Outlet has permanent flow.	1 0.5 0.1
5. Vegetation of wetland	– – Densely vegetated forested wetland (greater than 70% cover) – – Wetland vegetation, mixture of forested and scrub–shrub species. – – Wetland dominated by herbaceous species or is permanently inundated.	1 0.5 0.1
FUNCTIONAL VALUE 9 **SEDIMENT TRAPPING**		
PART A: **OPPORTUNITY FOR SEDIMENT TRAPPING**		
1. Average slope of watershed above wetland.	a. Steep: Greater than 8%. b. Moderate: From 3 to 8%. c. Low: Less than 3%.	1 0.5 0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
2. Potential sources of excess sediment in the watershed above the wetland.	a. Extensive areas of active cropland, construction sites, eroding road banks, ditches, and similar areas (surrounded by development)	1
	b. Some areas of active cropland, a few construction sites, and similar areas (50% developed).	0.5
	c. Land use in watershed predominantly forested, abandoned farmland or other-wise undeveloped (mostly undeveloped).	0.1
PART B: OVERALL POTENTIAL FOR SEDIMENT TRAPPING BY WETLAND		
1. Opportunity for sediment trapping.	Average FV from Part A above	--
. Effective floodwater storage of wetland.	Average from Functional Value 7	--
3. Wetland location in relation to an intermittent or perennial stream or a lake.	a. Wetland forms a buffer more than 50 ft. wide between upland and stream or lake.	1
	b. Wetland forms a buffer from 20 to 50 feet wide between upland and stream or lake.	0.5
	c. Wetland forms a buffer less than 20 ft. wide, or wetland not bordering a stream or lake.	0.1
4. Dominant wetland class bordering a stream or lake.	a. Scrub-shrub or dense stands of cattails or phragmites (dense herbaceous veg of any kind).	1
	b. Forested	0.5
	c. Other types, or wetland does not border a stream or lake.	0.1
5. Areas of impounded open water (including beaver dams).	a. Wetland contains permanently impounded open water greater than	1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
	5 acres in size. b. Wetland contains permanently impounded open water from 0.5 to 5 acres in size c. Wetland contains permanently impounded open water less than 0.5 acres in size, or wetland does not contain open water.	 0.5 0.1
FUNTIONAL VALUE 10 NUTRIENT ATTENUATION		
PART A: OPPORTUNITY FOR NUTRIENT ATTENUATION		
1. Opportunity for sediment trapping.	Average FV for Part A of FV 9	--
2. Potential sources of excess nutrients in watershed above wetland.	a. Large areas of active cropland, pastureland, or urban land. Many dairies or other livestock operations, sewage treatment plants, or numerous on-site septic systems within 100 feet of stream (heavily developed). b. Watershed contains some areas of active cropland, pastureland, or urban land. A few dairies or other livestock operations or a few on-site septic systems within 100 feet of the stream. c. Watershed predominantly forested or otherwise undeveloped.	1 0.5 0.1
PART B: OVERALL POTENTIAL FOR NUTRIENT ATTENUATION		
1. Opportunity for nutrient attenuation.	Average FV for Part A (above)	--
2. Overall potential for sediment trapping in the wetland.	Average FV for Part B of FV 9	--

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
3. Dominant wetland class. (Refer to question V.2.4).	a. Floating aquatic plants, emergent (marsh), forested, or scrub–shrub, except bogs.	1
	b. Bogs.	0.1
4. Wetland Hydroperiod.	a. Wetland contains permanently impounded open water > 5 acres in size.	1
	b. Wetland contains permanently impounded open water from 0.5 to 5 acres in size, OR more than 5 acres of the wetland are flooded or ponded annually during a portion of the growing season.	0.5
	c. Above criteria are not met (e.g. the wetland has predominantly saturated soil conditions and is rarely ponded or flooded during the growing season.)	0.1
FUNCTIONAL VALUE 12 URBAN QUALITY OF LIFE		
PART A: PRESENCE OF AN URBAN SETTING		
1. Dominant land use within 0.5 miles of wetland.	a. Commercial/industrial/transportation use or high density residential (quarter acre lots) use.	1
	b. Rural residential use (2 acre lots)	0.5
	c. Agriculture, forestry, or similar open space zoning.	0.1
2. Rate of development within 0.5 miles of wetland.	a. Area rapidly developing or already predominantly developed for above uses.	1
	b. Moderate development is likely to occur.	0.5
	c. Very little development is likely	0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
	to occur in the foreseeable future.	
PART B: WETLAND WILDLIFE HABITAT IN AN URBAN SETTING		
1. Area of shallow permanent open water (less than 6.6 feet deep) including streams.	a. 0.5 acres or more b. Less than 0.5 acres	1 0.1
2. Wetland diversity. (Refer to Question V.2.4).	a. Two or more wetland classes present. b. One wetland class present.	1 0.1
3. Dominant wetland class.	FV from Question V.2.5.	--
4. Interspersion of vegetation and/or open water.	FV from Question V.2.7.	--
5. Stream Corridor vegetation (within 15 feet on each side of stream).	a. Wetland borders a stream and > 75% of the stream corridor is in shrubs, trees, and herbaceous vegetation for a distance of 1000 feet upstream and downstream of wetland. b. Wetland borders a stream and between 25% and 75% of stream corridor is in shrubs, trees, and of 1000 feet upstream and downstream of wetland c. Less than 25% of the stream corridor is in shrubs, trees, and herbaceous vegetation for a distance of 1000 feet upstream and downstream of the wetland, OR wetland not bordering a stream.	1 0.5 0.1
PART C: EDUCATIONAL OPPORTUNITY IN AN URBAN SETTING		
1. Proximity of potential educational site to schools.	FV from Question V.4.2.	--

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD		
Evaluation Questions	**Evaluation Criteria**	**Functional Value Index**
2. Off road parking at potential educational site suitable for school buses.	FV from Question V.4.3.	--
3. Student safety.	FV from Question V.4.6.	--
4. Access to perennial stream or lake at potential educational site (Refer to Questions V.4.8 and V.4.9).	a. Direct access available	1
	b. Water access not available but feasible to develop	0.5
	c. Perennial stream or lake not present or access not feasible to develop.	0.1
PART D: VISUAL/AESTHETIC QUALITY IN AN URBAN SETTING		
1. Number of wetland classes visible from primary viewing location(s). (Refer to Question V.5.5).	a. Two or more classes	1
	b. One class	0.1
2. Dominant wetland class visible from primary viewing location(s).	FV from Question V.5.2.	--
3. Approximate extent of open water visible from primary viewing location(s). (Refer to Question V.5.5).	a. More than 0.5 acre or 200 feet of stream.	1
	b. Less than 0.5 acre of 200 feet of stream.	0.1
4. General appearance of the wetland visible from primary viewing location(s).	a. No major detractors (such as litter) or detractors could be removed (natural).	1
	b. Some detractors present which could not easily be removed (natural but some alteration/disturbance).	0.5
	c. Major detractors which could not easily be removed (partially filled, major disturbance).	0.1

MODIFIED WETLAND FUNCTIONS AND VALUE ASSESSMENT METHOD

Evaluation Questions	Evaluation Criteria	Functional Value Index
PART E: WATER–BASED RECREATION IN STREAM OR LAKE ASSOCIATED WITH A WETLAND IN AN URBAN SETTING		
1. Water quality of the water–course, pond, or lake associated with the wetland.	FV from Question V.1.3.	– –
2. Opportunities for wildlife observation.	Average FV from Part B of this Functional Value.	– –
3. Hazard(s) which may limit public use.	a. No major hazards present such as railroad trestles, cellar holes, etc., OR hazards easily corrected. (natural, no adjacent development).	1
	b. Existing hazards moderately difficult to correct. (some surrounding development).	0.5
	c. Major hazards which would be difficult and/or expensive to correct. (heavily developed)	0.1

DATE:	5/3/93
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA A-1
TOTAL AREA:	4.0

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Ed. Potent.		FV 5 Vis/Aest. Qual.		FV 6 Water Rec.		FV7 Flood Control		FV8 Ground Water		FV9 Sedim. Part A	
1	1.00	1	**0.83**	1	**0.50**	1	0.00	1	**0.76**	1	**1.00**	1	0.10	1	1.00	1	0.10	1	0.50
2	0.75	2	0.10	2	**0.25**	2	**0.25**	2	1.00	2	0.10	2	0.10	2	0.50	2	0.10	2	0.50
3	0.25	3	0.50	3	0.00	3	0.00	3	1.00	3	0.50	3	**0.76**	3	0.10	3	0.10	**Avg.**	**0.50**
4	0.50	4	**0.25**	4	0.00	4	0.00	4	**1.00**	4	1.00	4	**0.25**	4	0.50	4	**0.25**	**Part B**	
5	1.00	5	1.00	5	0.00	5	0.00	5	1.00	5	0.10	5	0.10	5	1.00	**Avg.**	**0.14**	1	**0.50**
6	0.50	6	1.00	6	0.00	6	0.00	6	1.00	6	1.00	6	1.00	**Avg.**	**0.62**	Area	4	2	**0.62**
7	1.00	7	1.00	7	0.00	7	0.00	7	1.00	7	0.50	7	0.10	Area	4	WVU	0.6	3	1.00
8	1.00	8	0.50	8	0.00	**Avg.**	**0.04**	8	0.75	8	1.00	8	**0.66**	WVU	2.5			4	0.50
9	1.00	9	1.00	9	0.00	Area	4	9	0.50	10	**0.76**	**Avg.**	**0.38**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.08**	WVU	0.1	**Avg.**	**0.89**	**Avg.**	**0.66**	Area	4					**Avg.**	**0.54**
11	1.00	11	1.00	Area	4			Area	4	Area	4	WVU	1.5					Area	4
12	1.00	12	0.50	WVU	0.3			WVU	3.6	WVU	2.7							WVU	2.2
Avg.	**0.83**	13	1.00																
Area	4	14	1.00																
WVU	3.3	**Avg.**	**0.76**																
		Area	4																
		WVU	3.1																

FV10 Nutrient Attenuation Part A		Part B		FV11 Shoreline Anc.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historical Pot.		FV14 Noteworth.	
1	**0.50**	1	**0.50**	1	0.00	1	0.25	1	0.10	1	**1.00**	1	**1.00**	1	**0.25**	1	0.10	1	0.00
2	0.50	2	**0.54**	2	0.00	2	1.00	2	1.00	2	**1.00**	2	**0.10**	2	**0.64**	2	0.00	2	0.00
Avg.	**0.50**	3	1.00	3	0.00	**Avg.**	**0.63**	3	**1.00**	3	**1.00**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**1.00**	4	0.10	4	**1.00**	**Avg.**	**0.46**	**Avg.**	**0.03**	4	1.00
		Avg.	**0.54**	Area	4			5	0.10	**Avg.**	**0.78**	**Avg.**	**0.55**	Area	4	Area	4	5	1.00
		Area	4	WVU	0.0			**Avg.**	**0.64**	Area	4	Area	4	WVU	1.8533	WVU	0.1333	6	0.00
		WVU	2.1					Area	4	WVU	3.1	WVU	2.20					7	0.00
								WVU	2.6									**Avg.**	**0.29**
																		Area	4.0
																		WVU	1.1

ATE:	7/27/93
INVESTIGATOR:	FES

WETLAND CODE:	NCUA A-2
TOTAL AREA:	0.09

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.	
1	1.00
2	0.50
3	0.50
4	0.50
5	0.50
6	0.50
7	0.10
8	0.10
9	0.10
10	0.10
11	0.50
12	0.50
Avg.	**0.41**
Area	0.09
WVU	0.0

FV 2 Wild. Habitat	
1	**0.41**
2	0.10
3	0.10
4	**0.50**
5	0.10
6	0.10
7	0.10
8	0.10
9	0.10
10	0.10
11	0.50
12	0.50
13	0.50
14	0.50
Avg.	**0.26**
Area	0.09
WVU	0.0

FV 3 Part A	
1	**0.10**
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
Avg.	**0.07**
Area	0.09
WVU	0.0

Part B	
1	0.00
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.07**
Area	0.09
WVU	0.0

FV 4 Educ. Potent.	
1	**0.26**
2	0.50
3	0.50
4	**0.10**
5	1.00
6	0.50
7	0.20
8	0.70
9	0.00
Avg.	**0.42**
Area	0.09
WVU	0.0

FV 5 Vis/Aeth. Qual.	
1	**0.10**
2	0.10
3	0.50
4	1.00
5	0.10
6	0.50
7	0.50
8	1.00
10	**0.26**
Avg.	**0.45**
Area	0.09
WVU	0.0

FV 6 Water Recr.	
1	0.00
2	0.00
3	**0.26**
4	**0.50**
5	0.00
6	0.00
7	0.00
8	**0.45**
Avg.	**0.15**
Area	0.09
WVU	0.0

FV7 Flood Control	
1	1.00
2	0.10
3	0.10
4	0.50
5	0.30
Avg.	**0.40**
Area	0.09
WVU	0.0

FV8 Grnd. Water	
1	0.00
2	0.00
3	0.00
4	**0.50**
Avg.	**0.13**
Area	0.09
WVU	0.0

FV9 Sedim. Part A	
1	0.10
2	0.50
Avg.	**0.30**
Part B	
1	**0.30**
2	**0.40**
3	0.10
4	0.50
5	0.10
Avg.	**0.28**
Area	0.09
WVU	0.0

FV10 Part A	
1	**0.30**
2	0.50
Avg.	**0.40**

Nutr. Atten. Part B	
1	**0.40**
2	**0.28**
3	1.00
4	0.10
Avg.	**0.45**
Area	0.09
WVU	0.0

FV11 Shore. Anchor	
1	0.00
2	0.00
3	0.00
Avg.	**0.00**
Area	0.09
WVU	0.0

FV12 Urban Quality of Life Part A	
1	0.50
2	0.50
Avg.	**0.50**

Part B	
1	0.10
2	0.10
3	**0.10**
4	**0.10**
5	0.10
Avg.	**0.10**
Area	0.09
WVU	0.0

Part C	
1	**0.50**
2	**0.50**
3	**0.50**
4	0.10
Avg.	**0.40**
Area	0.09
WVU	0.036

Part D	
1	**0.10**
2	**0.10**
3	0.10
4	**0.5**
Avg.	**0.20**
Area	0.09
WVU	0.02

Part E	
1	**0.50**
2	**0.10**
3	0.30
Avg.	**0.30**
Area	0.09
WVU	0.027

FV13 Historic Pot.	
1	0.10
2	0.00
3	0.00
Avg.	**0.03**
Area	0.09
WVU	0.003

FV14 Noteworth.	
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.0**
Area	0.1
WVU	0.0

.TE:	7/27/93
INVESTIGATOR:	FES

WETLAND CODE:	NCUA A-3
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.52**	1	**0.50**	1	0.00	1	**0.34**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.50	3	0.00	3	0.00	3	0.10	3	0.70	3	**0.34**	3	0.10	3	0.00	**Avg.**	**0.50**
4	1.00	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.50**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.10	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.10	8	0.00	**Avg.**	**0.07**	8	0.10	8	1.00	8	**0.48**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	10	**0.34**	**Avg.**	**0.16**					5	0.10
10	0.50	10	0.50	**Avg.**	**0.11**	WVU	0.0	**Avg.**	**0.20**	**Avg.**	**0.48**	Area	0					**Avg.**	**0.23**
11	0.50	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.52**	13	0.10																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.34**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.50**	1	**0.50**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.23**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.50**	2	**0.18**	2	0.00	2	0.00
Avg.	**0.50**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**0.50**	3	**0.10**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.33	4	**0.10**	**Avg.**	**0.39**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.46**	Area	0			5	0.10	**Avg.**	**0.16**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.18**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

ATE:	7/27/93
INVESTIGATOR:	FES

WETLAND CODE:	NCUA A-4
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X	**WETLAND EVALUATION SCORE:**
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	**WETLAND EVALUATION RANK:**
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO X	**MANAGEMENT RECOMMENDATION**
Description:			Protection
Source:			Enhancement/Mitigation Opportunity
Is wetland a significant landscape feature?	YES	NO X	
Description:			

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.74**	1	**0.50**	1	0.00	1	**0.56**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.50	2	0.10	2	**0.70**	2	**0.70**	2	0.50	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	0.70	3	0.50	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.56**	3	0.10	3	0.00	**Avg.**	**0.50**
4	1.00	4	**0.70**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.70**	4	0.50	4	**0.70**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.50	**Avg.**	**0.18**	1	**0.50**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.70	7	0.10	7	0.00	7	0.00	7	0.10	7	0.30	7	0.00	Area	0	WVU	0.0	3	0.50
8	0.50	8	0.50	8	0.00	**Avg.**	**0.10**	8	1.00	8	1.00	8	**0.46**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.20	10	**0.56**	**Avg.**	**0.22**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.13**	WVU	0.0	**Avg.**	**0.45**	**Avg.**	**0.46**	Area	0					**Avg.**	**0.41**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.74**	13	1.00																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.56**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.50**	1	**0.4**	1	0.00	1	0.50	1	0.10	1	**0.50**	1	**0.10**	1	**0.70**	1	1.00	1	0.00
2	0.20	2	**0.4**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.10	2	0.00
Avg.	**0.35**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.50**	3	0.30	3	1.00	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	1.00	4	**0.50**	**Avg.**	**0.69**	**Avg.**	**0.37**	4	0.00
		Avg.	**0.46**	Area	0			5	0.50	**Avg.**	**0.53**	**Avg.**	**0.25**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

DATE:	September 20, 1993
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA A5
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.53**	1	**1.00**	1	0.00	1	**0.44**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.10
3	0.10	3	1.00	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.44**	3	0.10	3	0.00	**Avg.**	**0.10**
4	1.00	4	**0.10**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.10**	4	0.50	4	**0.1**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.50	**Avg.**	**0.03**	1	**0.10**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.01**	8	0.10	8	1.00	8	**0.38**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.00	10	**0.44**	**Avg.**	**0.11**					5	0.10
10	0.50	10	0.10	**Avg.**	**0.12**	WVU	0.0	**Avg.**	**0.20**	**Avg.**	**0.38**	Area	0					**Avg.**	**0.17**
11	0.10	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.53**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.44**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.10**	1	**0.3**	1	0.00	1	0.10	1	0.10	1	**0.10**	1	**1**	1	**0.1**	1	0.10	1	0.00
2	0.50	2	**0.2**	2	0.00	2	0.50	2	1.00	2	**0.10**	2	**0.1**	2	**0.46**	2	0.00	2	0.00
Avg.	**0.3**	3	1.00	3	0.00	**Avg.**	**0.30**	3	**1.00**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.1**	**Avg.**	**0.22**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.39**	Area	0			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.33**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.46**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	September 20, 1993
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA A6
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	0.45	1	1.00	1	0.00	1	0.31	1	0.10	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	0.10	2	0.10	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.10
3	0.10	3	1.00	3	0.00	3	0.00	3	0.10	3	0.50	3	0.31	3	0.10	3	0.00	Avg.	0.10
4	0.50	4	0.10	4	0.00	4	0.00	4	0.10	4	1.00	4	0.10	4	0.50	4	0.1	Part B	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.10	Avg.	0.03	1	0.10
6	0.10	6	0.10	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	Avg.	0.36	Area	0	2	0.36
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	0.50	8	0.00	Avg.	0.01	8	0.10	8	0.50	8	0.31	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0	9	0.00	10	0.31	Avg.	0.09					5	0.10
10	0.50	10	0.10	Avg.	0.12	WVU	0.0	Avg.	0.18	Avg.	0.31	Area	0					Avg.	0.15
11	0.10	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	0.45	13	0.10																
Area	0	14	1.00																
WVU	0.0	Avg.	0.31																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.10	1	0.3	1	0.00	1	0.50	1	0.10	1	0.10	1	0.1	1	0.1	1	0.10	1	0.00
2	0.50	2	0.2	2	0.00	2	0.50	2	0.10	2	0.10	2	0.1	2	0.08	2	0.00	2	0.00
Avg.	0.3	3	1.00	3	0.00	Avg.	0.50	3	0.10	3	0.10	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	Avg.	0.00			4	0.10	4	0.10	4	0.1	Avg.	0.09	Avg.	0.03	4	0.00
		Avg.	0.39	Area	0			5	0.00	Avg.	0.10	Avg.	0.10	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			Avg.	0.08	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									Avg.	0.0
																		Area	0.0
																		WVU	0.0

DATE:	3/29/93
INVESTIGATOR:	RAJ,DRS

WETLAND CODE:	NCUA A7
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.42**	1	**0.75**	1	0.00	1	**0.38**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.25
3	0.50	3	0.75	3	0.00	3	0.00	3	0.50	3	0.50	3	**0.38**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.5**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.18**
6	0.50	6	0.10	6	0.00	6	0.00	6	1.00	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	0.75	8	**0.44**	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0	9	0.00	10	**0.38**	**Avg.**	**0.16**					5	0.10
10	0.10	10	0.50	**Avg.**	**0.14**	WVU	0.0	**Avg.**	**0.38**	**Avg.**	**0.44**	Area	0					**Avg.**	**0.17**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.42**	13	0.10																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.38**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.3**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.1**	1	**0.5**	1	0.10	1	0.00
2	0.50	2	**0.2**	2	0.00	2	1.00	2	0.10	2	**0.50**	2	**0.5**	2	**0.08**	2	0.10	2	0.00
Avg.	**0.3**	3	0.10	3	0.00	**Avg.**	**0.75**	3	**0.10**	3	**1.00**	3	0.10	3	0.00	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.5**	**Avg.**	**0.19**	**Avg.**	**0.07**	4	0.00
		Avg.	**0.18**	Area	0			5	0.00	**Avg.**	**0.43**	**Avg.**	**0.30**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.08**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	September 20, 1993
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA B1
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	0.76	1	0.75	1	0.00	1	0.52	1	0.50	1	0.00	1	1.00	1	0.00	1	1.00
2	0.50	2	0.50	2	0.50	2	0.50	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.10
3	0.50	3	0.75	3	0.00	3	0.00	3	0.10	3	0.50	3	0.52	3	0.10	3	0.00	Avg.	0.55
4	1.00	4	0.50	4	0.00	4	0.00	4	0.50	4	1.00	4	0.50	4	0.10	4	0.5	Part B	
5	1.00	5	0.50	5	0.00	5	0.00	5	1.00	5	0.50	5	0.00	5	0.10	Avg.	0.13	1	0.55
6	1.00	6	0.50	6	0.00	6	0.00	6	0.50	6	1.00	6	0.00	Avg.	0.28	Area	0	2	0.28
7	0.50	7	0.50	7	0.00	7	0.00	7	0.50	7	1.00	7	0.00	Area	0	WVU	0.0	3	1.00
8	1.00	8	0.50	8	0.00	Avg.	0.07	8	1.00	8	1.00	8	0.78	WVU	0.0			4	1.00
9	0.10	9	0.10	9	0.00	Area	0	9	0.50	10	0.52	Avg.	0.23					5	0.50
10	1.00	10	0.10	Avg.	0.14	WVU	0.0	Avg.	0.52	Avg.	0.78	Area	0					Avg.	0.67
11	1.00	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	0.76	13	0.10																
Area	0	14	0.50																
WVU	0.0	Avg.	0.52																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.55	1	0.5	1	0.00	1	0.50	1	1.00	1	0.10	1	1	1	0.5	1	1.00	1	0.00
2	0.50	2	0.7	2	0.00	2	0.50	2	1.00	2	0.10	2	1	2	0.80	2	1.00	2	0.00
Avg.	0.5	3	1.00	3	0.00	Avg.	0.50	3	0.50	3	0.50	3	1.00	3	0.50	3	0.00	3	0.00
		4	0.50	Avg.	0.00			4	0.50	4	0.50	4	1	Avg.	0.60	Avg.	0.67	4	0.00
		Avg.	0.67	Area	0			5	1.00	Avg.	0.30	Avg.	1.00	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			Avg.	0.80	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									Avg.	0.0
																		Area	0.0
																		WVU	0.0

DATE:	5/5/93
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA B-2
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		Part B	
1	1.00	1	**0.58**	1	**0.50**	1	0.00
2	0.10	2	0.10	2	**0.50**	2	**0.50**
3	0.50	3	0.50	3	0.00	3	0.00
4	0.50	4	**0.50**	4	0.00	4	0.00
5	0.50	5	0.50	5	0.00	5	0.00
6	0.10	6	1.00	6	0.00	6	0.00
7	0.70	7	0.50	7	0.00	7	0.00
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**
9	0.50	9	0.10	9	0.00	Area	0
10	1.00	10	0.50	**Avg.**	**0.11**	WVU	0.0
11	1.00	11	0.10	Area	0		
12	1.00	12	1.00	WVU	0.0		
Avg.	**0.58**	13	0.50				
Area	0	14	1.00				
WVU	0.0	**Avg.**	**0.53**				
		Area	0				
		WVU	0.0				

FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	**0.53**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.25
3	0.10	3	0.50	3	**0.53**	3	0.10	3	0.00	**Avg.**	**0.38**
4	**0.50**	4	0.70	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.10	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.38**
6	0.50	6	0.50	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.10	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	1.00	8	**0.49**	WVU	0.0			4	0.10
9	0.00	9	**0.53**	**Avg.**	**0.19**					5	0.10
Avg.	**0.27**	**Avg.**	**0.49**	Area	0					**Avg.**	**0.22**
Area	0	Area	0	WVU	0.0					Area	0
WVU	0.0	WVU	0.0							WVU	0.0

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.34**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.30	2	**0.22**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.34**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.50**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.50**	4	0.10	4	**0.5**	**Avg.**	**0.45**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.42**	Area	0			5	0.10	**Avg.**	**0.20**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

DATE:	5/6/93
INVESTIGATOR:	FES / RAJ

WETLAND CODE:	NCUA B-3
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.	
1	1.00
2	0.25
3	0.50
4	0.50
5	1.00
6	0.50
7	1.00
8	0.50
9	1.00
10	1.00
11	0.50
12	1.00
Avg.	**0.73**
Area	0
WVU	0.0

FV 2 Wild. Habitat	
1	**0.73**
2	0.10
3	0.50
4	**0.50**
5	0.10
6	0.10
7	0.10
8	1.00
9	0.10
10	0.50
11	0.50
12	0.50
13	0.10
14	1.00
Avg.	**0.42**
Area	0
WVU	0.0

FV 3 Part A	
1	**0.50**
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
Avg.	**0.11**
Area	0
WVU	0.0

FV 3 Part B	
1	0.00
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.07**
Area	0
WVU	0.0

FV 4 Educ. Potent.	
1	**0.42**
2	0.10
3	0.10
4	**0.10**
5	0.66
6	0.50
7	0.10
8	1.00
9	0.50
Avg.	**0.39**
Area	0
WVU	0.0

FV 5 Vis/Aeth. Qual.	
1	**0.10**
2	0.50
3	0.50
4	1.00
5	0.10
6	1.00
7	0.25
8	1.00
9	**0.42**
Avg.	**0.54**
Area	0
WVU	0.0

FV 6 Water Recr.	
1	0.00
2	0.00
3	**0.42**
4	**0.50**
5	0.00
6	0.00
7	0.00
8	**0.54**
Avg.	**0.18**
Area	0
WVU	0.0

FV7 Flood Control	
1	1.00
2	1.00
3	0.10
4	0.10
5	0.10
Avg.	**0.46**
Area	0
WVU	0.0

FV8 Grnd. Water	
1	0.00
2	0.00
3	0.00
4	**0.50**
Avg.	**0.13**
Area	0
WVU	0.0

FV9 Sedim. Part A	
1	0.50
2	0.25
Avg.	**0.38**
Part B	
1	**0.38**
2	**0.46**
3	0.10
4	0.10
5	0.10
Avg.	**0.23**
Area	0
WVU	0.0

FV10 Part A	
1	**0.38**
2	0.25
Avg.	**0.31**

Nutr. Atten. Part B	
1	**0.31**
2	**0.23**
3	1.00
4	0.10
Avg.	**0.41**
Area	0
WVU	0.0

FV11 Shore. Anchor.	
1	0.00
2	0.00
3	0.00
Avg.	**0.00**
Area	0
WVU	0.0

FV12 Urban Quality of Life Part A	
1	1.00
2	0.50
Avg.	**0.75**

FV12 Part B	
1	0.10
2	0.10
3	**0.10**
4	**0.10**
5	0.10
Avg.	**0.10**
Area	0
WVU	0.0

FV12 Part C	
1	**0.10**
2	**0.10**
3	**0.50**
4	0.10
Avg.	**0.20**
Area	0
WVU	0

FV12 Part D	
1	**0.10**
2	**0.50**
3	0.10
4	**1.00**
Avg.	**0.43**
Area	0
WVU	0.00

FV12 Part E	
1	**0.50**
2	**0.10**
3	1.00
Avg.	**0.53**
Area	0
WVU	0

FV13 Historic Pot.	
1	1.00
2	0.00
3	0.00
Avg.	**0.33**
Area	0
WVU	0

FV14 Noteworth.	
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.00**
Area	0.0
WVU	0.0

ATE:	5/6/93
INVESTIGATOR:	FES / RAJ

WETLAND CODE:	NCUA B-4
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.72**	1	**1.00**	1	0.00	1	**0.40**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.50	2	0.00	2	0.25
3	0.50	3	1.00	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.40**	3	0.10	3	0.00	**Avg.**	**0.38**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.66	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.38**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	1.00	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	0.10	8	0.00	**Avg.**	**0.07**	8	0.70	8	0.50	8	**0.46**	WVU	0.0			4	0.10
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.40**	**Avg.**	**0.17**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.17**	WVU	0.0	**Avg.**	**0.44**	**Avg.**	**0.46**	Area	0					**Avg.**	**0.22**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.72**	13	0.25																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.40**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.4**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.50**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.2**	2	0.00	2	0.50	2	0.50	2	**0.10**	2	**0.50**	2	**0.18**	2	0.00	2	0.00
Avg.	**0.44**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**0.10**	3	**0.50**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.39**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.44**	Area	0			5	0.10	**Avg.**	**0.20**	**Avg.**	**0.40**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.18**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

ATE:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B-5
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X	WETLAND EVALUATION SCORE:	
Description:					
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	WETLAND EVALUATION RANK:	
Description:					
Source:					
Is wetland designated as critical habitat for RTE species?	YES	NO	X	MANAGEMENT RECOMMENDATION	
Description:				Protection	
				Enhancement/Mitigation Opportunity	
Source:					
Is wetland a significant landscape feature?	YES	NO	X		
Description:					

FV 1 Ecol. Integ.	
1	1.00
2	0.10
3	0.50
4	1.00
5	0.50
6	0.50
7	1.00
8	0.50
9	1.00
10	1.00
11	1.00
12	1.00
Avg.	**0.76**
Area	0
WVU	0.0

FV 2 Wild. Habitat	
1	**0.76**
2	0.10
3	0.50
4	**0.50**
5	0.10
6	0.10
7	0.10
8	0.50
9	0.10
10	0.50
11	0.50
12	0.50
13	0.10
14	1.00
Avg.	**0.38**
Area	0
WVU	0.0

FV 3 Part A	
1	**0.50**
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
Avg.	**0.11**
Area	0
WVU	0.0

FV 3 Part B	
1	0.00
2	**0.50**
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.07**
Area	0
WVU	0.0

FV 4 Educ. Potent.	
1	**0.38**
2	0.10
3	0.10
4	**0.10**
5	0.10
6	0.50
7	0.50
8	0.50
9	0.20
Avg.	**0.28**
Area	0
WVU	0.0

FV 5 Vis/Aeth. Qual.	
1	**0.10**
2	0.50
3	0.50
4	1.00
5	0.10
6	0.50
7	0.10
8	1.00
9	**0.38**
Avg.	**0.46**
Area	0
WVU	0.0

FV 6 Water Recr.	
1	0.00
2	0.00
3	**0.38**
4	**0.50**
5	0.00
6	0.00
7	0.00
8	**0.46**
Avg.	**0.17**
Area	0
WVU	0.0

FV7 Flood Control	
1	1.00
2	1.00
3	0.10
4	0.50
5	0.10
Avg.	**0.54**
Area	0
WVU	0.0

FV8 Grnd. Water	
1	0.00
2	0.00
3	0.00
4	**0.50**
Avg.	**0.13**
Area	0
WVU	0.0

FV9 Sedim. Part A	
1	0.50
2	0.50
Avg.	**0.50**
Part B	
1	**0.50**
2	**0.54**
3	0.10
4	0.10
5	0.10
Avg.	**0.27**
Area	0
WVU	0.0

FV10 Part A	
1	**0.50**
2	0.20
Avg.	**0.35**

Nutr. Atten. Part B	
1	**0.35**
2	**0.27**
3	1.00
4	0.10
Avg.	**0.43**
Area	0
WVU	0.0

FV11 Shore. Anchor.	
1	0.00
2	0.00
3	0.00
Avg.	**0.00**
Area	0
WVU	0.0

FV12 Urban Quality of Life Part A	
1	0.50
2	0.50
Avg.	**0.50**

FV12 Part B	
1	0.10
2	0.10
3	**0.10**
4	**0.10**
5	0.10
Avg.	**0.10**
Area	0
WVU	0.0

FV12 Part C	
1	**0.10**
2	**0.10**
3	**0.50**
4	0.10
Avg.	**0.20**
Area	0
WVU	0

FV12 Part D	
1	**0.10**
2	**0.50**
3	0.10
4	**0.50**
Avg.	**0.30**
Area	0
WVU	0.00

FV12 Part E	
1	**0.50**
2	**0.10**
3	0.70
Avg.	**0.43**
Area	0
WVU	0

FV13 Historic Pot.	
1	0.10
2	0.00
3	0.00
Avg.	**0.03**
Area	0
WVU	0

FV14 Noteworth.	
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
Avg.	**0.00**
Area	0.0
WVU	0.0

.TE:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B-6
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.61**	1	**0.50**	1	0.00	1	**0.60**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.50	2	0.00	2	0.25
3	0.50	3	0.50	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.60**	3	0.10	3	0.00	**Avg.**	**0.38**
4	1.00	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.38**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.20	6	0.30	6	0.00	**Avg.**	**0.52**	Area	0	2	**0.52**
7	0.20	7	0.50	7	0.00	7	0.00	7	0.10	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.30	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.30	8	0.70	8	**0.43**	WVU	0.0			4	0.10
9	0.70	9	1.00	9	0.00	Area	0	9	0.00	9	**0.60**	**Avg.**	**0.19**					5	0.10
10	1.00	10	0.70	**Avg.**	**0.11**	WVU	0.0	**Avg.**	**0.22**	**Avg.**	**0.43**	Area	0					**Avg.**	**0.24**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.61**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.60**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.34**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	0.10	1	0.00
2	0.30	2	**0.24**	2	0.00	2	0.50	2	1.00	2	**0.10**	2	**0.10**	2	**0.54**	2	0.00	2	0.00
Avg.	**0.34**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**1.00**	3	**0.20**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.50**	4	0.10	4	**0.30**	**Avg.**	**0.51**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.42**	Area	0			5	0.10	**Avg.**	**0.13**	**Avg.**	**0.38**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.54**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

ATE:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B-7
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.63**	1	**1.00**	1	0.00	1	**0.42**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.25
3	0.50	3	1.00	3	0.00	3	0.00	3	0.10	3	0.20	3	**0.42**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.18**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	1.00	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	0.10	8	0.00	**Avg.**	**0.07**	8	0.10	8	0.50	8	**0.34**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	9	**0.42**	**Avg.**	**0.16**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.17**	WVU	0.0	**Avg.**	**0.22**	**Avg.**	**0.34**	Area	0					**Avg.**	**0.17**
11	1.00	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.63**	13	0.10																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.42**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.14**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.10	2	**0.17**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.50**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.14**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**0.10**	3	**0.10**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.37**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.35**	Area	0			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.10**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B--9
TOTAL AREA:	0.13

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.10	1	**0.45**	1	**0.10**	1	0.00	1	**0.23**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.25
3	0.10	3	0.10	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.23**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.50	4	**0.10**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.10**	4	0.50	4	**0.10**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.03**	1	**0.18**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0.13	2	**0.36**
7	1.00	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0.13	WVU	0.0	3	0.10
8	0.10	8	0.10	8	0.00	**Avg.**	**0.01**	8	0.50	8	1.00	8	**0.49**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0.13	9	0.50	9	**0.23**	**Avg.**	**0.10**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.02**	WVU	0.0	**Avg.**	**0.29**	**Avg.**	**0.49**	Area	0.13					**Avg.**	**0.17**
11	0.50	11	0.50	Area	0.13			Area	0.13	Area	0.13	WVU	0.0					Area	0.13
12	0.50	12	0.30	WVU	0.0			WVU	0.0	WVU	0.1							WVU	0.0
Avg.	**0.45**	13	0.10																
Area	0.13	14	1.00																
WVU	0.1	**Avg.**	**0.23**																
		Area	0.13																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.34**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.10**	1	0.10	1	0.00
2	0.50	2	**0.17**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.50**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.34**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**0.10**	3	**0.50**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.23**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.40**	Area	0.13			5	0.10	**Avg.**	**0.20**	**Avg.**	**0.30**	Area	0.13	Area	0.13	5	0.00
		Area	0.13	WVU	0.0			**Avg.**	**0.10**	Area	0.13	Area	0.13	WVU	0.0303	WVU	0.0043	6	0.00
		WVU	0.1					Area	0.13	WVU	0.026	WVU	0.04					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.1
																		WVU	0.0

DATE:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B–10
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	0.44	1	0.50	1	0.00	1	0.40	1	0.10	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	0.20	2	0.20	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.10
3	0.20	3	0.50	3	0.00	3	0.00	3	0.10	3	0.30	3	0.40	3	0.50	3	0.00	Avg.	0.10
4	0.10	4	0.20	4	0.00	4	0.00	4	0.10	4	0.50	4	0.20	4	0.50	4	0.20	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.50	Avg.	0.05	1	0.10
6	0.10	6	1.00	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	Avg.	0.52	Area	0	2	0.52
7	0.70	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	Avg.	0.03	8	0.10	8	0.50	8	0.29	WVU	0.0			4	0.10
9	1.00	9	0.10	9	0.00	Area	0	9	0.00	9	0.40	Avg.	0.11					5	0.10
10	0.50	10	0.10	Avg.	0.08	WVU	0.0	Avg.	0.17	Avg.	0.29	Area	0					Avg.	0.18
11	0.50	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	0.44	13	0.50																
Area	0	14	1.00																
WVU	0.0	Avg.	0.40																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.10	1	0.30	1	0.00	1	1.00	1	0.10	1	0.10	1	0.10	1	0.20	1	0.10	1	0.00
2	0.50	2	0.18	2	0.00	2	0.50	2	0.10	2	0.10	2	0.10	2	0.28	2	0.00	2	0.00
Avg.	0.30	3	1.00	3	0.00	Avg.	0.75	3	1.00	3	0.10	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	Avg.	0.00			4	0.10	4	0.10	4	0.10	Avg.	0.19	Avg.	0.03	4	0.00
		Avg.	0.40	Area	0			5	0.10	Avg.	0.10	Avg.	0.10	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			Avg.	0.28	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									Avg.	0.0
																		Area	0.0
																		WVU	0.0

DATE:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B-11
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.10	1	**0.37**	1	**0.10**	1	0.00	1	**0.45**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	0.10	2	0.00	2	0.50	2	0.00	2	0.25
3	0.10	3	0.10	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.45**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.50	4	**0.10**	4	0.00	4	0.00	4	**0.50**	4	0.30	4	**0.10**	4	0.50	4	**0.10**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.50	**Avg.**	**0.03**	1	**0.18**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.52**	Area	0	2	**0.52**
7	0.50	7	0.50	7	0.00	7	0.00	7	0.10	7	0.20	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.01**	8	0.10	8	0.10	8	**0.26**	WVU	0.0			4	0.10
9	0.50	9	0.50	9	0.00	Area	0	9	0.00	9	**0.45**	**Avg.**	**0.10**					5	0.10
10	0.50	10	0.10	**Avg.**	**0.02**	WVU	0.0	**Avg.**	**0.17**	**Avg.**	**0.26**	Area	0					**Avg.**	**0.20**
11	0.50	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.37**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.45**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.34**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.10**	1	0.10	1	0.00
2	0.50	2	**0.20**	2	0.00	2	0.80	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.34**	3	1.00	3	0.00	**Avg.**	**0.90**	3	**1.00**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.50**	4	0.10	4	**0.10**	**Avg.**	**0.19**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.41**	Area	0			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.10**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	5/6/93
INVESTIGATOR:	RAJ / FES

WETLAND CODE:	NCUA B-12
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO X	WETLAND EVALUATION SCORE:	
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	WETLAND EVALUATION RANK:	
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO X	MANAGEMENT RECOMMENDATION	
Description:			Protection	
			Enhancement/Mitigation Opportunity	
Source:				
Is wetland a significant landscape feature?	YES	NO X		
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.56**	1	**0.10**	1	0.00	1	**0.42**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.70
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.30	2	0.00	2	0.70
3	0.50	3	0.10	3	0.00	3	0.00	3	0.10	3	0.30	3	**0.42**	3	0.10	3	0.00	**Avg.**	**0.70**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.70**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.48**	Area	0	2	**0.48**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.70	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.10	8	0.10	8	**0.27**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.00	9	**0.42**	**Avg.**	**0.15**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.19**	**Avg.**	**0.27**	Area	0					**Avg.**	**0.30**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.56**	13	0.70																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.42**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.70**	1	**0.60**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.30**	2	0.00	2	1.00	2	0.10	2	**0.10**	2	**0.10**	2	**0.28**	2	0.10	2	0.00
Avg.	**0.60**	3	0.10	3	0.00	**Avg.**	**1.00**	3	**1.00**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.33	4	**0.10**	**Avg.**	**0.29**	**Avg.**	**0.07**	4	0.00
		Avg.	**0.27**	Area	0			5	0.10	**Avg.**	**0.16**	**Avg.**	**0.10**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.28**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

DATE:	7/16/93
INVESTIGATOR:	FES / DG

WETLAND CODE:	NCUA B-13
TOTAL AREA:	3.12

Is wetland protected by regulatory rules or statute?	YES	NO X	**WETLAND EVALUATION SCORE:**
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	**WETLAND EVALUATION RANK:**
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO X	**MANAGEMENT RECOMMENDATION**
Description:			Protection
Source:			Enhancement/Mitigation Opportunity
Is wetland a significant landscape feature?	YES	NO X	
Description:			

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.44**	1	**0.25**	1	0.00	1	**0.45**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.50	2	0.00	2	0.25
3	0.50	3	0.25	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.45**	3	0.10	3	0.00	**Avg.**	**0.38**
4	1.00	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	0.50	4	**0.50**	4	0.80	4	**0.50**	**Part B**	
5	0.10	5	0.50	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.38**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.10	6	0.20	6	0.00	**Avg.**	**0.58**	Area	3.12	2	**0.58**
7	0.10	7	0.50	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	3.12	WVU	0.4	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	0.80	8	**0.41**	WVU	1.8			4	0.10
9	0.10	9	0.10	9	0.00	Area	3.12	9	0.50	9	**0.45**	**Avg.**	**0.17**					5	0.10
10	0.50	10	0.50	**Avg.**	**0.08**	WVU	0.2	**Avg.**	**0.34**	**Avg.**	**0.41**	Area	3.12					**Avg.**	**0.25**
11	0.50	11	1.00	Area	3.12			Area	3.12	Area	3.12	WVU	0.5					Area	3.12
12	0.75	12	0.30	WVU	0.3			WVU	1.1	WVU	1.3							WVU	0.8
Avg.	**0.44**	13	0.50																
Area	3.12	14	1.00																
WVU	1.4	**Avg.**	**0.45**																
		Area	3.12																
		WVU	1.4																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.24**	1	0.00	1	1.00	1	1.00	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.10	2	**0.25**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.24**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**0.10**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.50**	4	0.10	4	**0.20**	**Avg.**	**0.32**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.40**	Area	3.12			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.13**	Area	3.12	Area	3.12	5	0.00
		Area	3.12	WVU	0.0			**Avg.**	**0.36**	Area	3.12	Area	3.12	WVU	0.9984	WVU	0.104	6	0.00
		WVU	1.2					Area	3.12	WVU	0.312	WVU	0.39					7	0.00
								WVU	1.1									**Avg.**	**0.00**
																		Area	3.1
																		WVU	0.0

E:	7/16/93
INVESTIGATOR:	FES / DG

WETLAND CODE:	NCUA B-14
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO X	WETLAND EVALUATION SCORE:	
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	WETLAND EVALUATION RANK:	
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO X	MANAGEMENT RECOMMENDATION	
Description:			Protection	
			Enhancement/Mitigation Opportunity	
Source:				
Is wetland a significant landscape feature?	YES	NO X		
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	0.52	1	1.00	1	0.00	1	0.40	1	0.10	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	0.50	2	0.50	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.25
3	0.50	3	1.00	3	0.00	3	0.00	3	0.10	3	0.50	3	0.40	3	0.10	3	0.00	Avg.	0.18
4	0.70	4	0.50	4	0.00	4	0.00	4	0.10	4	0.80	4	0.50	4	0.50	4	0.50	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.30	Avg.	0.13	1	0.18
6	0.10	6	0.10	6	0.00	6	0.00	6	0.10	6	0.50	6	0.00	Avg.	0.40	Area	0	2	0.40
7	0.30	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.30	8	0.50	8	0.00	Avg.	0.07	8	0.30	8	1.00	8	0.49	WVU	0.0			4	0.10
9	0.70	9	0.10	9	0.00	Area	0	9	0.50	9	0.40	Avg.	0.17					5	0.10
10	0.50	10	0.50	Avg.	0.17	WVU	0.0	Avg.	0.24	Avg.	0.49	Area	0					Avg.	0.18
11	1.00	11	0.30	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.30	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	0.52	13	0.50																
Area	0	14	1.00																
WVU	0.0	Avg.	0.40																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.18	1	0.24	1	0.00	1	1.00	1	0.10	1	0.10	1	0.50	1	0.50	1	0.10	1	0.00
2	0.30	2	0.18	2	0.00	2	0.50	2	0.50	2	0.10	2	0.50	2	0.18	2	0.00	2	0.00
Avg.	0.24	3	1.00	3	0.00	Avg.	0.75	3	0.10	3	0.10	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	Avg.	0.00			4	0.10	4	0.10	4	0.50	Avg.	0.26	Avg.	0.03	4	0.00
		Avg.	0.38	Area	0			5	0.10	Avg.	0.10	Avg.	0.40	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			Avg.	0.18	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									Avg.	0.00
																		Area	0.0
																		WVU	0.0

E:	7/16/93
INVESTIGATOR:	FES / DG

WETLAND CODE:	NCUA B-15
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X	WETLAND EVALUATION SCORE:	
Description:					
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	WETLAND EVALUATION RANK:	
Description:					
Source:					
Is wetland designated as critical habitat for RTE species?	YES	NO	X	MANAGEMENT RECOMMENDATION	
Description:				Protection	
				Enhancement/Mitigation Opportunity	
Source:					
Is wetland a significant landscape feature?	YES	NO	X		
Description:					

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.43**	1	**1.00**	1	0.00	1	**0.37**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.25
3	0.50	3	1.00	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.37**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.70	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.80	4	**0.50**	4	0.70	4	**0.50**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.18**
6	0.10	6	0.10	6	0.00	6	0.00	6	0.10	6	0.50	6	0.00	**Avg.**	**0.40**	Area	0	2	**0.40**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.50	7	0.30	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.30	8	1.00	8	**0.46**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	9	**0.37**	**Avg.**	**0.17**					5	0.10
10	0.10	10	0.50	**Avg.**	**0.17**	WVU	0.0	**Avg.**	**0.24**	**Avg.**	**0.46**	Area	0					**Avg.**	**0.18**
11	1.00	11	0.30	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.30	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.43**	13	0.10																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.37**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.24**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.50**	1	**0.50**	1	0.10	1	0.00
2	0.30	2	**0.18**	2	0.00	2	0.50	2	0.50	2	**0.10**	2	**0.50**	2	**0.18**	2	0.00	2	0.00
Avg.	**0.24**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**0.10**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.26**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.38**	Area	0			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.40**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.18**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

ATE:	7/16/93
INVESTIGATOR:	FES / DG

WETLAND CODE:	NCUA B-16
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B	
1	0.50	1	**0.63**	1	**0.10**	1	0.00
2	0.10	2	0.10	2	**0.50**	2	**0.50**
3	0.50	3	0.10	3	0.00	3	0.00
4	0.50	4	**0.50**	4	0.00	4	0.00
5	0.50	5	1.00	5	0.00	5	0.00
6	0.50	6	1.00	6	0.00	6	0.00
7	0.70	7	0.50	7	0.00	7	0.00
8	0.30	8	0.50	8	0.00	**Avg.**	**0.07**
9	1.00	9	1.00	9	0.00	Area	0
10	1.00	10	0.50	**Avg.**	**0.07**	WVU	0.0
11	1.00	11	1.00	Area	0		
12	1.00	12	0.50	WVU	0.0		
Avg.	**0.63**	13	1.00				
Area	0	14	1.00				
WVU	0.0	**Avg.**	**0.67**				
		Area	0				
		WVU	0.0				

FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	**0.67**	1	**1.00**	1	0.00	1	1.00	1	0.00	1	0.70
2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	0.10	3	0.30	3	**0.67**	3	0.10	3	0.00	**Avg.**	**0.60**
4	**1.00**	4	0.70	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.10	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.60**
6	0.10	6	0.20	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	0.10	8	**0.41**	WVU	0.0			4	0.10
9	0.00	9	**0.67**	**Avg.**	**0.20**					5	0.10
Avg.	**0.34**	**Avg.**	**0.41**	Area	0					**Avg.**	**0.27**
Area	0	Area	0	WVU	0.0					Area	0
WVU	0.0	WVU	0.0							WVU	0.0

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A	
1	0.60	1	**0.65**	1	0.00	1	1.00
2	0.70	2	**0.27**	2	0.00	2	0.70
Avg.	**0.65**	3	1.00	3	0.00	**Avg.**	**0.85**
		4	0.10	**Avg.**	**0.00**		
		Avg.	**0.50**	Area	0		
		Area	0	WVU	0.0		
		WVU	0.0				

FV12 Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	0.10	1	0.00
2	1.00	2	**0.10**	2	**0.10**	2	**0.54**	2	0.00	2	0.00
3	**1.00**	3	**0.10**	3	0.10	3	0.10	3	0.00	3	0.00
4	**0.50**	4	0.10	4	**0.20**	**Avg.**	**0.38**	**Avg.**	**0.03**	4	0.00
5	0.10	**Avg.**	**0.10**	**Avg.**	**0.35**	Area	0	Area	0	5	0.00
Avg.	**0.54**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
Area	0	WVU	0	WVU	0.00					7	0.00
WVU	0.0									**Avg.**	**0.0**
										Area	0.0
										WVU	0.0

E:	11/23/93
INVESTIGATOR:	DG

WETLAND CODE:	NCUA B-17
TOTAL AREA:	0.20

Is wetland protected by regulatory rules or statute?	YES	NO X	**WETLAND EVALUATION SCORE:**
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	**WETLAND EVALUATION RANK:**
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO X	**MANAGEMENT RECOMMENDATION**
Description:			Protection
Source:			Enhancement/Mitigation Opportunity
Is wetland a significant landscape feature?	YES	NO X	
Description:			

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.43**	1	**0.75**	1	0.00	1	**0.39**	1	**0.20**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.30	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.75	3	0.00	3	0.00	3	0.10	3	0.20	3	**0.39**	3	0.10	3	0.00	**Avg.**	**0.50**
4	0.30	4	**0.50**	4	0.00	4	0.00	4	**0.20**	4	0.50	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	1.00	5	0.20	5	0.00	5	0.00	5	0.20	5	0.10	5	0.00	5	0.20	**Avg.**	**0.13**	1	**0.50**
6	0.30	6	0.50	6	0.00	6	0.00	6	0.20	6	0.10	6	0.00	**Avg.**	**0.38**	Area	0.2	2	**0.38**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.50	7	0.20	7	0.00	Area	0.2	WVU	0.0	3	0.10
8	0.20	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.20	8	0.30	8	**0.25**	WVU	0.1			4	0.20
9	0.10	9	0.10	9	0.00	Area	0.2	9	0.50	9	**0.39**	**Avg.**	**0.14**					5	0.10
10	0.50	10	0.20	**Avg.**	**0.14**	WVU	0.0	**Avg.**	**0.27**	**Avg.**	**0.25**	Area	0.2					**Avg.**	**0.26**
11	0.30	11	0.50	Area	0.2			Area	0.2	Area	0.2	WVU	0.0					Area	0.2
12	0.70	12	0.40	WVU	0.0			WVU	0.1	WVU	0.1							WVU	0.1
Avg.	**0.43**	13	0.20																
Area	0.2	14	1.00																
WVU	0.1	**Avg.**	**0.39**																
		Area	0.2																
		WVU	0.1																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.50**	1	**0.40**	1	0.00	1	0.80	1	0.10	1	**0.10**	1	**0.30**	1	**0.50**	1	0.10	1	0.00
2	0.30	2	**0.26**	2	0.00	2	0.80	2	0.30	2	**0.10**	2	**0.30**	2	**0.24**	2	0.00	2	0.00
Avg.	**0.40**	3	1.00	3	0.00	**Avg.**	**0.80**	3	**0.50**	3	**0.20**	3	0.10	3	0.20	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.31**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.44**	Area	0.2			5	0.20	**Avg.**	**0.13**	**Avg.**	**0.20**	Area	0.2	Area	0.2	5	0.00
		Area	0.2	WVU	0.0			**Avg.**	**0.24**	Area	0.2	Area	0.2	WVU	0.0626	WVU	0.0066	6	0.00
		WVU	0.1					Area	0.2	WVU	0.025	WVU	0.04					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.2
																		WVU	0.0

.TE:	9/15/93
INVESTIGATOR:	DG

WETLAND CODE:	NCUA B-18
TOTAL AREA:	0.35

Is wetland protected by regulatory rules or statute?	YES	NO	X	**WETLAND EVALUATION SCORE:**	
Description:					
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	**WETLAND EVALUATION RANK:**	
Description:					
Source:					
Is wetland designated as critical habitat for RTE species?	YES	NO	X	**MANAGEMENT RECOMMENDATION**	
Description:				Protection	
				Enhancement/Mitigation Opportunity	
Source:					
Is wetland a significant landscape feature?	YES	NO	X		
Description:					

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.33**	1	**0.30**	1	0.00	1	**0.32**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.30	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.32**	3	0.50	3	0.00	**Avg.**	**0.30**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.70	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.20	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.30**
6	0.10	6	0.10	6	0.00	6	0.00	6	0.50	6	0.70	6	0.00	**Avg.**	**0.44**	Area	0.35	2	**0.44**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0.35	WVU	0.0	3	0.10
8	0.10	8	0.70	8	0.00	**Avg.**	**0.07**	8	1.00	8	0.70	8	**0.51**	WVU	0.2			4	0.10
9	0.50	9	0.10	9	0.00	Area	0.35	9	0.50	9	**0.32**	**Avg.**	**0.17**					5	0.10
10	0.50	10	0.50	**Avg.**	**0.09**	WVU	0.0	**Avg.**	**0.37**	**Avg.**	**0.51**	Area	0.35					**Avg.**	**0.21**
11	0.10	11	0.10	Area	0.35			Area	0.35	Area	0.35	WVU	0.1					Area	0.35
12	0.40	12	0.50	WVU	0.0			WVU	0.1	WVU	0.2							WVU	0.1
Avg.	**0.33**	13	0.10																
Area	0.35	14	1.00																
WVU	0.1	**Avg.**	**0.32**																
		Area	0.35																
		WVU	0.1																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.40**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**0.10**	1	0.50	1	1.00	1	0.00
2	0.50	2	**0.21**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**1.00**	2	**0.10**	2	0.50	2	0.00
Avg.	**0.40**	3	1.00	3	0.00	**Avg.**	**0.60**	3	**0.10**	3	**0.50**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**0.10**	4	0.20	4	**0.70**	**Avg.**	**0.37**	**Avg.**	**0.50**	4	0.00
		Avg.	**0.48**	Area	0.35			5	0.10	**Avg.**	**0.23**	**Avg.**	**0.48**	Area	0.35	Area	0.35	5	0.00
		Area	0.35	WVU	0.0			**Avg.**	**0.10**	Area	0.35	Area	0.35	WVU	0.1283	WVU	0.175	6	0.00
		WVU	0.2					Area	0.35	WVU	0.0787	WVU	0.17					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.4
																		WVU	0.0

L ...:	5/5/93
INVESTIGATOR:	DRS / FES

WETLAND CODE:	NCUA B-20
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO X	**WETLAND EVALUATION SCORE:**
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	**WETLAND EVALUATION RANK:**
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO X	**MANAGEMENT RECOMMENDATION**
Description:			Protection
			Enhancement/Mitigation Opportunity
Source:			
Is wetland a significant landscape feature?	YES	NO X	
Description:			

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.72**	1	**1.00**	1	0.00	1	**0.51**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.70
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.50	2	0.00	2	0.10
3	0.50	3	1.00	3	0.00	3	0.00	3	0.10	3	0.30	3	**0.51**	3	0.10	3	0.00	**Avg.**	**0.40**
4	1.00	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.70	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.66	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.40**
6	0.50	6	0.30	6	0.00	6	0.00	6	1.00	6	0.50	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	1.00	7	0.30	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	1.00	8	**0.47**	WVU	0.0			4	0.10
9	0.30	9	0.10	9	0.00	Area	0	9	0.30	9	**0.51**	**Avg.**	**0.18**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.17**	WVU	0.0	**Avg.**	**0.42**	**Avg.**	**0.47**	Area	0					**Avg.**	**0.23**
11	1.00	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.72**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.51**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.25**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.50**	1	**0.50**	1	0.10	1	0.00
2	0.10	2	**0.23**	2	0.00	2	0.50	2	0.50	2	**0.10**	2	**0.50**	2	**0.26**	2	0.00	2	0.00
Avg.	**0.25**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**0.30**	3	**1.00**	3	0.10	3	0.70	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.30**	4	0.30	4	**0.50**	**Avg.**	**0.49**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.39**	Area	0			5	0.10	**Avg.**	**0.38**	**Avg.**	**0.40**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.26**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	11-24-93
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA B-21
TOTAL AREA:	0.62

Is wetland protected by regulatory rules or statute?	YES	NO	X	**WETLAND EVALUATION SCORE:**
Description:				
				WETLAND EVALUATION RANK:
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	
Description:				
				MANAGEMENT RECOMMENDATION
Source:				Protection
Is wetland designated as critical habitat for RTE species?	YES	NO	X	Enhancement/Mitigation Opportunity
Description:				
Source:				
Is wetland a significant landscape feature?	YES	NO	X	
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.60**	1	**0.50**	1	0.00	1	**0.53**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	1.00
2	0.10	2	0.50	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.50	3	0.00	3	0.00	3	0.50	3	0.10	3	**0.53**	3	0.10	3	0.00	**Avg.**	**0.75**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.75**
6	0.10	6	0.50	6	0.00	6	0.00	6	1.00	6	0.10	6	0.00	**Avg.**	**0.36**	Area	0.62	2	**0.36**
7	1.00	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0.62	WVU	0.1	3	0.10
8	0.10	8	1.00	8	0.00	**Avg.**	**0.07**	8	0.50	8	0.50	8	**0.34**	WVU	0.2			4	1.00
9	1.00	9	1.00	9	0.00	Area	0.62	9	0.50	9	**0.53**	**Avg.**	**0.17**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.11**	WVU	0.0	**Avg.**	**0.45**	**Avg.**	**0.34**	Area	0.62					**Avg.**	**0.46**
11	1.00	11	0.50	Area	0.62			Area	0.62	Area	0.62	WVU	0.1					Area	0.62
12	0.75	12	1.00	WVU	0.1			WVU	0.3	WVU	0.2							WVU	0.3
Avg.	**0.60**	13	0.10																
Area	0.62	14	0.50																
WVU	0.4	**Avg.**	**0.53**																
		Area	0.62																
		WVU	0.3																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.75**	1	**0.50**	1	0.00	1	1.00	1	1.00	1	**0.10**	1	**0.10**	1	**0.50**	1	0.00	1	0.00
2	0.25	2	**0.46**	2	0.00	2	1.00	2	0.10	2	**0.50**	2	**1.00**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.50**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**0.50**	3	**1.00**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.32**	**Avg.**	**0.00**	4	0.00
		Avg.	**0.62**	Area	0.62			5	0.10	**Avg.**	**0.43**	**Avg.**	**0.33**	Area	0.62	Area	0.62	5	0.00
		Area	0.62	WVU	0.0			**Avg.**	**0.36**	Area	0.62	Area	0.62	WVU	0.1984	WVU	0	6	0.00
		WVU	0.4					Area	0.62	WVU	0.2635	WVU	0.20					7	0.00
								WVU	0.2									**Avg.**	**0.00**
																		Area	0.6
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-1
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.39**	1	**0.30**	1	0.00	1	**0.34**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.30	3	0.00	3	0.00	3	0.30	3	0.60	3	**0.34**	3	0.10	3	0.00	**Avg.**	**0.30**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.5**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.60	5	1.00	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.30**
6	0.10	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.50	7	0.20	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.30	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.40	8	0.60	8	**0.54**	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0	9	0.50	10	**0.34**	**Avg.**	**0.17**					5	0.10
10	0.50	10	0.50	**Avg.**	**0.09**	WVU	0.0	**Avg.**	**0.37**	**Avg.**	**0.54**	Area	0					**Avg.**	**0.19**
11	0.10	11	0.20	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.70	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.39**	13	0.10																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.34**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.4**	1	0.00	1	0.30	1	0.10	1	**0.10**	1	**0.1**	1	**0.5**	1	0.10	1	0.00
2	0.50	2	**0.2**	2	0.00	2	0.50	2	0.10	2	**0.30**	2	**0.5**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.4**	3	1.00	3	0.00	**Avg.**	**0.40**	3	**0.10**	3	**0.50**	3	1.00	3	0.30	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.5**	**Avg.**	**0.30**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.42**	Area	0			5	0.10	**Avg.**	**0.25**	**Avg.**	**0.53**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.10**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-2
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.64**	1	**0.30**	1	0.00	1	**0.52**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**1.00**	2	**1.00**	2	1.00	2	0.30	2	0.00	2	0.10	2	0.00	2	1.00
3	1.00	3	0.30	3	0.00	3	0.00	3	0.10	3	0.60	3	**0.52**	3	0.10	3	0.00	**Avg.**	**0.55**
4	0.10	4	**1.00**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**1.00**	4	0.10	4	**1**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.30	5	0.10	5	0.00	5	0.50	**Avg.**	**0.25**	1	**0.55**
6	0.10	6	1.00	6	0.00	6	0.00	6	0.50	6	0.60	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.10	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.50	8	1.00	8	0.00	**Avg.**	**0.14**	8	1.00	8	0.50	8	**0.47**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	10	**0.52**	**Avg.**	**0.25**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.14**	WVU	0.0	**Avg.**	**0.46**	**Avg.**	**0.47**	Area	0					**Avg.**	**0.32**
11	0.50	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.80	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.64**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.52**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.55**	1	**0.5**	1	0.00	1	0.70	1	0.10	1	**1.00**	1	**0.1**	1	**1**	1	0.50	1	0.00
2	0.50	2	**0.3**	2	0.00	2	1.00	2	0.10	2	**0.10**	2	**0.3**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.5**	3	0.50	3	0.00	**Avg.**	**0.85**	3	**1.00**	3	**0.50**	3	0.10	3	0.30	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.50	4	**0.6**	**Avg.**	**0.55**	**Avg.**	**0.17**	4	0.00
		Avg.	**0.36**	Area	0			5	0.50	**Avg.**	**0.53**	**Avg.**	**0.28**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-3
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.93**	1	**1.00**	1	0.00	1	**0.80**	1	**0.30**	1	0.00	1	1.00	1	0.00	1	0.50
2	1.00	2	0.50	2	**1.00**	2	**1.00**	2	1.00	2	0.20	2	0.00	2	0.10	2	0.00	2	0.30
3	1.00	3	1.00	3	0.00	3	0.00	3	0.50	3	1.00	3	**0.80**	3	0.10	3	0.00	**Avg.**	**0.40**
4	1.00	4	**1.00**	4	0.00	4	0.00	4	**0.30**	4	1.00	4	**1.00**	4	0.10	4	**1**	**Part B**	
5	1.00	5	0.30	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.80	**Avg.**	**0.25**	1	**0.40**
6	1.00	6	1.00	6	0.00	6	0.00	6	0.50	6	1.00	6	0.00	**Avg.**	**0.42**	Area	0	2	**0.42**
7	1.00	7	0.70	7	0.00	7	0.00	7	1.00	7	0.70	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	1.00	8	0.00	**Avg.**	**0.14**	8	1.00	8	1.00	8	**0.68**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	10	**0.80**	**Avg.**	**0.31**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.22**	WVU	0.0	**Avg.**	**0.73**	**Avg.**	**0.68**	Area	0					**Avg.**	**0.30**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.93**	13	0.70																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.80**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.3**	1	0.00	1	0.50	1	0.10	1	**1.00**	1	**0.1**	1	**1**	1	1.00	1	0.00
2	0.10	2	**0.3**	2	0.00	2	0.50	2	0.10	2	**0.50**	2	**0.2**	2	**0.58**	2	0.00	2	0.00
Avg.	**0.3**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.50**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.70**	4	0.50	4	**1**	**Avg.**	**0.86**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.51**	Area	0			5	1.00	**Avg.**	**0.63**	**Avg.**	**0.35**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.58**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-4
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.93**	1	**1.00**	1	0.00	1	**0.80**	1	**0.30**	1	0.00	1	1.00	1	0.00	1	0.50
2	1.00	2	0.50	2	**1.00**	2	**1.00**	2	1.00	2	0.20	2	0.00	2	0.10	2	0.00	2	0.30
3	1.00	3	1.00	3	0.00	3	0.00	3	0.50	3	1.00	3	**0.80**	3	0.10	3	0.00	**Avg.**	**0.40**
4	1.00	4	**1.00**	4	0.00	4	0.00	4	**0.30**	4	1.00	4	**1.00**	4	0.10	4	**1**	**Part B**	
5	1.00	5	0.30	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.80	**Avg.**	**0.25**	1	**0.40**
6	1.00	6	1.00	6	0.00	6	0.00	6	0.50	6	1.00	6	0.00	**Avg.**	**0.42**	Area	0	2	**0.42**
7	1.00	7	0.70	7	0.00	7	0.00	7	1.00	7	0.70	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	1.00	8	0.00	**Avg.**	**0.14**	8	1.00	8	1.00	8	**0.68**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	10	**0.80**	**Avg.**	**0.31**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.22**	WVU	0.0	**Avg.**	**0.73**	**Avg.**	**0.68**	Area	0					**Avg.**	**0.30**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.93**	13	0.70																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.80**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.3**	1	0.00	1	0.50	1	0.10	1	**1.00**	1	**0.1**	1	**1**	1	1.00	1	0.00
2	0.10	2	**0.3**	2	0.00	2	0.50	2	0.10	2	**0.50**	2	**0.2**	2	**0.58**	2	0.00	2	0.00
Avg.	**0.3**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.50**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.70**	4	0.50	4	**1**	**Avg.**	**0.86**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.51**	Area	0			5	1.00	**Avg.**	**0.63**	**Avg.**	**0.35**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.58**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-5
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.93**	1	**1.00**	1	0.00	1	**0.80**	1	**0.30**	1	0.00	1	1.00	1	0.00	1	0.50
2	1.00	2	0.50	2	**1.00**	2	**1.00**	2	1.00	2	0.20	2	0.00	2	0.10	2	0.00	2	0.30
3	1.00	3	1.00	3	0.00	3	0.00	3	0.50	3	1.00	3	**0.80**	3	0.10	3	0.00	**Avg.**	**0.40**
4	1.00	4	**1.00**	4	0.00	4	0.00	4	**0.30**	4	1.00	4	**1.00**	4	0.10	4	**1**	**Part B**	
5	1.00	5	0.30	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.80	**Avg.**	**0.25**	1	**0.40**
6	1.00	6	1.00	6	0.00	6	0.00	6	0.50	6	1.00	6	0.00	**Avg.**	**0.42**	Area	0	2	**0.42**
7	1.00	7	0.70	7	0.00	7	0.00	7	1.00	7	0.70	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	1.00	8	0.00	**Avg.**	**0.14**	8	1.00	8	1.00	8	**0.68**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	10	**0.80**	**Avg.**	**0.31**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.22**	WVU	0.0	**Avg.**	**0.73**	**Avg.**	**0.68**	Area	0					**Avg.**	**0.30**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.93**	13	0.70																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.80**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		FV12 Part B		FV12 Part C		FV12 Part D		FV12 Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.3**	1	0.00	1	0.50	1	0.10	1	**1.00**	1	**0.1**	1	**1**	1	1.00	1	0.00
2	0.10	2	**0.3**	2	0.00	2	0.50	2	0.10	2	**0.50**	2	**0.2**	2	**0.58**	2	0.00	2	0.00
Avg.	**0.3**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.50**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.70**	4	0.50	4	**1**	**Avg.**	**0.86**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.51**	Area	0			5	1.00	**Avg.**	**0.63**	**Avg.**	**0.35**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.58**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-6
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.38**	1	**0.10**	1	0.00	1	**0.27**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.10	3	0.00	3	0.00	3	1.00	3	0.10	3	**0.27**	3	0.10	3	0.00	**Avg.**	**0.30**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.60	4	**0.50**	4	0.50	4	**0.5**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.30**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.70	6	0.10	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.10	7	0.20	7	0.00	7	0.00	7	1.00	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	0.50	8	**0.36**	WVU	0.0			4	0.10
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	10	**0.27**	**Avg.**	**0.14**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.47**	**Avg.**	**0.36**	Area	0					**Avg.**	**0.19**
11	0.10	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.38**	13	0.10																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.27**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.4**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.1**	1	**0.5**	1	0.10	1	0.00
2	0.50	2	**0.2**	2	0.00	2	0.80	2	0.10	2	**1.00**	2	**1**	2	**0.20**	2	0.00	2	0.00
Avg.	**0.4**	3	1.00	3	0.00	**Avg.**	**0.90**	3	**0.50**	3	**0.70**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.20**	4	0.10	4	**0.1**	**Avg.**	**0.40**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.42**	Area	0			5	0.10	**Avg.**	**0.48**	**Avg.**	**0.33**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.20**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA C-7
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.79**	1	**1.00**	1	0.00	1	**0.75**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.80
2	0.25	2	0.50	2	**1.00**	2	**1.00**	2	1.00	2	0.20	2	0.00	2	0.10	2	0.00	2	0.50
3	1.00	3	1.00	3	0.00	3	0.00	3	0.50	3	0.70	3	**0.75**	3	0.10	3	0.00	**Avg.**	**0.65**
4	0.80	4	**1.00**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**1.00**	4	0.10	4	1	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.80	**Avg.**	**0.25**	1	**0.65**
6	1.00	6	1.00	6	0.00	6	0.00	6	0.70	6	0.50	6	0.00	**Avg.**	**0.42**	Area	0	2	**0.42**
7	0.70	7	0.50	7	0.00	7	0.00	7	1.00	7	1.00	7	0.00	Area	0	WVU	0.0	3	0.30
8	0.70	8	1.00	8	0.00	**Avg.**	**0.14**	8	1.00	8	0.70	8	**0.51**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	10	**0.75**	**Avg.**	**0.28**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.22**	WVU	0.0	**Avg.**	**0.73**	**Avg.**	**0.51**	Area	0					**Avg.**	**0.39**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.79**	13	1.00																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.75**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		FV12 Part B		FV12 Part C		FV12 Part D		FV12 Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.65**	1	**0.6**	1	0.00	1	0.30	1	0.10	1	**1.00**	1	**0.1**	1	**1**	1	1.00	1	0.00
2	0.50	2	**0.4**	2	0.00	2	0.40	2	0.10	2	**0.50**	2	**0.2**	2	**0.54**	2	0.00	2	0.00
Avg.	**0.6**	3	1.00	3	0.00	**Avg.**	**0.35**	3	**1.00**	3	**0.70**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.50**	4	1.00	4	**0.5**	**Avg.**	**0.85**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.52**	Area	0			5	1.00	**Avg.**	**0.80**	**Avg.**	**0.23**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.54**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DA	JUNE 16, 1993
INVESTIGATOR:	RAJ

WETLAND CODE:	NCUA C-8
TOTAL AREA:	0.06

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.34**	1	**0.10**	1	0.00	1	**0.25**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.40
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.60	2	0.00	2	0.10	2	0.00	2	0.30
3	0.50	3	0.10	3	0.00	3	0.00	3	0.10	3	0.10	3	**0.25**	3	0.10	3	0.00	**Avg.**	**0.35**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.50**	4	0.50	4	**0.5**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.30	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.35**
6	0.10	6	0.10	6	0.00	6	0.00	6	0.10	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0.06	2	**0.36**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0.06	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.10	8	0.50	8	**0.35**	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0.06	9	0.00	10	**0.25**	**Avg.**	**0.14**					5	0.10
10	0.10	10	0.10	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.17**	**Avg.**	**0.35**	Area	0.06					**Avg.**	**0.20**
11	0.10	11	0.10	Area	0.06			Area	0.06	Area	0.06	WVU	0.0					Area	0.06
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.34**	13	0.10																
Area	0.06	14	0.70																
WVU	0.0	**Avg.**	**0.25**																
		Area	0.06																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.35**	1	**0.6**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**0.1**	1	**0.5**	1	0.10	1	0.00
2	0.75	2	**0.2**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.6**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.6**	3	1.00	3	0.00	**Avg.**	**0.60**	3	**0.10**	3	**0.10**	3	1.00	3	0.20	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.5**	**Avg.**	**0.27**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.46**	Area	0.06			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.55**	Area	0.06	Area	0.06	5	0.00
		Area	0.06	WVU	0.0			**Avg.**	**0.10**	Area	0.06	Area	0.06	WVU	0.016	WVU	0.002	6	0.00
		WVU	0.0					Area	0.06	WVU	0.006	WVU	0.03					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.1
																		WVU	0.0

DATE	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA D-1
TOTAL AREA:	4.45

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.50**	1	**0.50**	1	0.00	1	**0.53**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.25	2	0.20	2	**0.70**	2	**0.70**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.50
3	0.70	3	0.50	3	0.00	3	0.00	3	0.40	3	0.80	3	**0.53**	3	0.10	3	0.00	**Avg.**	**0.30**
4	0.90	4	**0.70**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.70**	4	0.80	4	**0.7**	**Part B**	
5	0.10	5	0.50	5	0.00	5	0.00	5	0.70	5	0.10	5	0.00	5	0.50	**Avg.**	**0.18**	1	**0.30**
6	0.20	6	0.50	6	0.00	6	0.00	6	1.00	6	0.70	6	0.00	**Avg.**	**0.50**	Area	4.45	2	**0.50**
7	0.40	7	0.50	7	0.00	7	0.00	7	0.50	7	0.70	7	0.00	Area	4.45	WVU	0.8	3	0.50
8	0.50	8	1.00	8	0.00	**Avg.**	**0.10**	8	0.50	8	0.50	8	**0.59**	WVU	2.2			4	1.00
9	0.40	9	0.10	9	0.00	Area	4.45	9	0.50	10	**0.53**	**Avg.**	**0.23**					5	0.50
10	1.00	10	0.50	**Avg.**	**0.13**	WVU	0.4	**Avg.**	**0.53**	**Avg.**	**0.59**	Area	4.45					**Avg.**	**0.56**
11	0.10	11	0.20	Area	4.45			Area	4.45	Area	4.45	WVU	1.0					Area	4.45
12	0.50	12	0.50	WVU	0.6			WVU	2.3	WVU	2.6							WVU	2.5
Avg.	**0.50**	13	0.70																
Area	4.45	14	1.00																
WVU	2.2	**Avg.**	**0.53**																
		Area	4.45																
		WVU	2.4																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.4**	1	0.00	1	0.20	1	0.80	1	**0.10**	1	**0.2**	1	**0.7**	1	0.10	1	0.00
2	0.50	2	**0.6**	2	0.00	2	0.50	2	0.20	2	**0.40**	2	**0.5**	2	**0.50**	2	0.00	2	0.00
Avg.	**0.4**	3	1.00	3	0.00	**Avg.**	**0.35**	3	**0.50**	3	**1.00**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**0.50**	4	0.50	4	**0.7**	**Avg.**	**0.57**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.57**	Area	4.45			5	0.50	**Avg.**	**0.50**	**Avg.**	**0.38**	Area	4.45	Area	4.45	5	0.00
		Area	4.45	WVU	0.0			**Avg.**	**0.50**	Area	4.45	Area	4.45	WVU	2.5216	WVU	0.1483	6	0.00
		WVU	2.5					Area	4.45	WVU	2.225	WVU	1.67					7	0.00
								WVU	2.2									**Avg.**	**0.0**
																		Area	4.5
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA D-2
TOTAL AREA:	7.57

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.83**	1	**0.50**	1	0.00	1	**0.65**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.80	2	0.10	2	**0.80**	2	**0.80**	2	0.10	2	0.30	2	0.00	2	0.10	2	0.00	2	0.25
3	0.80	3	0.50	3	0.00	3	0.00	3	1.00	3	0.90	3	**0.65**	3	0.10	3	0.00	**Avg.**	**0.38**
4	1.00	4	**0.80**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.80**	4	0.70	4	**0.8**	**Part B**	
5	1.00	5	0.50	5	0.00	5	0.00	5	0.60	5	0.10	5	0.00	5	0.70	**Avg.**	**0.20**	1	**0.38**
6	1.00	6	0.50	6	0.00	6	0.00	6	0.80	6	0.70	6	0.00	**Avg.**	**0.52**	Area	7.57	2	**0.52**
7	0.70	7	1.00	7	0.00	7	0.00	7	0.90	7	0.50	7	0.00	Area	7.57	WVU	1.5	3	0.50
8	0.70	8	1.00	8	0.00	**Avg.**	**0.11**	8	1.00	8	0.70	8	**0.59**	WVU	3.9			4	0.60
9	0.70	9	0.10	9	0.00	Area	7.57	9	0.50	10	**0.65**	**Avg.**	**0.26**					5	0.30
10	1.00	10	0.50	**Avg.**	**0.14**	WVU	0.9	**Avg.**	**0.67**	**Avg.**	**0.59**	Area	7.57					**Avg.**	**0.46**
11	0.50	11	1.00	Area	7.57			Area	7.57	Area	7.57	WVU	1.9					Area	7.57
12	0.70	12	0.80	WVU	1.1			WVU	5.1	WVU	4.5							WVU	3.5
Avg.	**0.83**	13	0.50																
Area	7.57	14	1.00																
WVU	6.2	**Avg.**	**0.65**																
		Area	7.57																
		WVU	4.9																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.6**	1	0.00	1	0.30	1	0.20	1	**0.10**	1	**0.3**	1	**0.8**	1	0.10	1	0.00
2	0.75	2	**0.5**	2	0.00	2	0.40	2	0.30	2	**1.00**	2	**0.3**	2	**0.50**	2	0.00	2	0.00
Avg.	**0.6**	3	1.00	3	0.00	**Avg.**	**0.35**	3	**0.50**	3	**0.80**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**1.00**	4	0.50	4	**0.7**	**Avg.**	**0.60**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.58**	Area	7.57			5	0.50	**Avg.**	**0.60**	**Avg.**	**0.35**	Area	7.57	Area	7.57	5	0.00
		Area	7.57	WVU	0.0			**Avg.**	**0.50**	Area	7.57	Area	7.57	WVU	4.542	WVU	0.2523	6	0.00
		WVU	4.4					Area	7.57	WVU	4.542	WVU	2.65					7	0.00
								WVU	3.8									**Avg.**	**0.0**
																		Area	7.6
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA D-3
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.93**	1	**1.00**	1	0.00	1	**0.79**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.70**	2	**0.70**	2	0.10	2	1.00	2	0.00	2	0.50	2	0.00	2	0.20
3	0.70	3	1.00	3	0.00	3	0.00	3	1.00	3	1.00	3	**0.79**	3	0.10	3	0.00	**Avg.**	**0.15**
4	1.00	4	**0.70**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.70**	4	0.50	4	**0.7**	**Part B**	
5	1.00	5	0.50	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.70	**Avg.**	**0.18**	1	**0.15**
6	1.00	6	0.80	6	0.00	6	0.00	6	1.00	6	1.00	6	0.00	**Avg.**	**0.56**	Area	0	2	**0.56**
7	1.00	7	1.00	7	0.00	7	0.00	7	1.00	7	0.80	7	0.00	Area	0	WVU	0.0	3	1.00
8	1.00	8	1.00	8	0.00	**Avg.**	**0.10**	8	1.00	8	1.00	8	**0.80**	WVU	0.0			4	0.70
9	1.00	9	0.10	9	0.00	Area	0	9	0.80	10	**0.79**	**Avg.**	**0.29**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.19**	WVU	0.0	**Avg.**	**0.80**	**Avg.**	**0.80**	Area	0					**Avg.**	**0.50**
11	1.00	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.90	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.93**	13	1.00																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.79**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.15**	1	**0.2**	1	0.00	1	0.20	1	0.10	1	**0.10**	1	**1**	1	**0.7**	1	1.00	1	0.00
2	0.30	2	**0.5**	2	0.00	2	0.30	2	1.00	2	**1.00**	2	**1**	2	**0.72**	2	0.00	2	0.00
Avg.	**0.2**	3	1.00	3	0.00	**Avg.**	**0.25**	3	**0.80**	3	**1.00**	3	1.00	3	1.00	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**1.00**	4	0.90	4	**1**	**Avg.**	**0.81**	**Avg.**	**0.33**	4	1.00
		Avg.	**0.46**	Area	0			5	0.70	**Avg.**	**0.75**	**Avg.**	**1.00**	Area	0	Area	0	5	1.00
		Area	0	WVU	0.0			**Avg.**	**0.72**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.3**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA D-4
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.81**	1	**0.60**	1	0.00	1	**0.46**	1	**0.30**	1	0.00	1	1.00	1	0.00	1	0.70
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.50	2	0.00	2	0.10	2	0.00	2	0.20
3	0.50	3	0.60	3	0.00	3	0.00	3	0.30	3	0.50	3	**0.46**	3	0.10	3	0.00	**Avg.**	**0.45**
4	1.00	4	**0.50**	4	0.00	4	0.00	4	**0.30**	4	0.80	4	**0.50**	4	0.50	4	**0.5**	**Part B**	
5	1.00	5	0.30	5	0.00	5	0.00	5	0.30	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.45**
6	0.80	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.80	7	0.30	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.80	8	1.00	8	0.00	**Avg.**	**0.07**	8	1.00	8	0.80	8	**0.50**	WVU	0.0			4	0.20
9	0.80	9	0.10	9	0.00	Area	0	9	0.50	10	**0.46**	**Avg.**	**0.18**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.12**	WVU	0.0	**Avg.**	**0.44**	**Avg.**	**0.50**	Area	0					**Avg.**	**0.24**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.81**	13	0.10																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.46**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.45**	1	**0.3**	1	0.00	1	0.10	1	0.10	1	**0.10**	1	**0.1**	1	**0.5**	1	0.10	1	0.00
2	0.20	2	**0.2**	2	0.00	2	0.10	2	0.10	2	**0.30**	2	**0.5**	2	**0.14**	2	0.00	2	0.00
Avg.	**0.3**	3	1.00	3	0.00	**Avg.**	**0.10**	3	**0.10**	3	**0.50**	3	0.20	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.30**	4	0.10	4	**0.5**	**Avg.**	**0.25**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.42**	Area	0			5	0.10	**Avg.**	**0.25**	**Avg.**	**0.33**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.14**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	JUNE 16, 1993
INVESTIGATOR:	DS

WETLAND CODE:	NCUA D-5
TOTAL AREA:	0

Is wetland protected by regulatory rules or statute?	YES	NO X
Description:		
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X
Description:		
Source:		
Is wetland designated as critical habitat for RTE species?	YES	NO X
Description:		
Source:		
Is wetland a significant landscape feature?	YES	NO X
Description:		

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	

MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.10	1	**0.71**	1	**0.80**	1	0.00	1	**0.59**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.70
2	0.50	2	0.10	2	**1.00**	2	**1.00**	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	1.00	3	0.80	3	0.00	3	0.00	3	0.10	3	1.00	3	**0.59**	3	0.10	3	0.00	**Avg.**	**0.60**
4	0.90	4	**1.00**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**1.00**	4	0.10	4	1	Part B	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.50	5	0.10	5	0.00	5	0.50	**Avg.**	**0.25**	1	**0.60**
6	0.60	6	0.50	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.36**	Area	0	2	**0.36**
7	0.70	7	0.30	7	0.00	7	0.00	7	0.50	7	0.70	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	1.00	8	0.00	**Avg.**	**0.14**	8	0.90	8	0.90	8	**0.55**	WVU	0.0			4	0.50
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	10	**0.59**	**Avg.**	**0.27**					5	0.10
10	1.00	10	0.80	**Avg.**	**0.20**	WVU	0.0	**Avg.**	**0.42**	**Avg.**	**0.55**	Area	0					**Avg.**	**0.33**
11	0.50	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.90	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.71**	13	0.50																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.59**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.60**	1	**0.6**	1	0.00	1	0.20	1	0.10	1	**0.10**	1	**0.1**	1	**1**	1	1.00	1	0.00
2	0.50	2	**0.3**	2	0.00	2	0.20	2	0.10	2	**0.10**	2	**0.1**	2	**0.40**	2	0.00	2	0.00
Avg.	**0.6**	3	1.00	3	0.00	**Avg.**	**0.20**	3	**0.50**	3	**0.50**	3	0.10	3	0.40	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.30**	4	0.20	4	**0.5**	**Avg.**	**0.60**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.50**	Area	0			5	1.00	**Avg.**	**0.23**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.40**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.0**
																		Area	0.0
																		WVU	0.0

DATE:	5/24/93
INVESTIGATOR:	FES / JVS

WETLAND CODE:	NCUA E-1
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.43**	1	**0.50**	1	0.00	1	**0.24**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	1.00	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.25
3	0.10	3	0.50	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.24**	3	0.10	3	0.00	**Avg.**	**0.18**
4	0.10	4	**0.10**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.10**	4	1.00	4	**0.10**	Part B	
5	0.10	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.03**	1	**0.18**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.50	6	0.10	6	0.00	**Avg.**	**0.46**	Area	0	2	**0.46**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.10	8	0.00	**Avg.**	**0.01**	8	0.10	8	1.00	8	**0.40**	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0	9	0.50	9	**0.24**	**Avg.**	**0.09**					5	0.10
10	0.50	10	0.10	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.25**	**Avg.**	**0.40**	Area	0					**Avg.**	**0.19**
11	1.00	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.43**	13	0.10																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.24**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.18**	1	**0.34**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.10**	1	**0.10**	1	0.10	1	0.00
2	0.50	2	**0.19**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**1.00**	2	**0.18**	2	0.00	2	0.00
Avg.	**0.34**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**0.50**	3	**0.50**	3	0.10	3	0.10	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.13**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.41**	Area	0			5	0.10	**Avg.**	**0.20**	**Avg.**	**0.33**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.18**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	9/9/93
INVESTIGATOR:	FS

WETLAND CODE:	NCUA E-2
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X	WETLAND EVALUATION SCORE:	
Description:					
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	WETLAND EVALUATION RANK:	
Description:					
Source:					
Is wetland designated as critical habitat for RTE species?	YES	NO	X	MANAGEMENT RECOMMENDATION	
Description:				Protection	
				Enhancement/Mitigation Opportunity	
Source:					
Is wetland a significant landscape feature?	YES	NO	X		
Description:					

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.53**	1	**0.20**	1	0.00	1	**0.47**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.20	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.47**	3	0.10	3	0.00	**Avg.**	**0.50**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.66	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.50**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.30	6	0.50	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.30
8	0.30	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	1.00	8	**0.52**	WVU	0.0			4	0.70
9	0.50	9	0.10	9	0.00	Area	0	9	0.50	9	**0.47**	**Avg.**	**0.19**					5	0.10
10	0.50	10	0.50	**Avg.**	**0.08**	WVU	0.0	**Avg.**	**0.40**	**Avg.**	**0.52**	Area	0					**Avg.**	**0.41**
11	0.50	11	0.30	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.53**	13	0.50																
Area	0	14	0.70																
WVU	0.0	**Avg.**	**0.47**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.50**	1	**0.60**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	1.00	1	0.00
2	0.70	2	**0.41**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.60**	3	1.00	3	0.00	**Avg.**	**0.75**	3	**1.00**	3	**0.30**	3	0.10	3	0.30	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.39**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.63**	Area	0			5	0.50	**Avg.**	**0.15**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

DA	6/29/93
INVESTIGATOR:	FES / DRS

WETLAND CODE:	NCUA F-1
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	0.74	1	0.50	1	0.00	1	0.82	1	1.00	1	0.00	1	1.00	1	0.00	1	1.00
2	0.50	2	0.50	2	0.50	2	0.50	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	0.50	3	0.50	3	0.00	3	0.00	3	0.10	3	1.00	3	0.82	3	0.10	3	0.00	Avg.	0.75
4	0.50	4	0.50	4	0.00	4	0.00	4	1.00	4	1.00	4	0.50	4	1.00	4	0.50	Part B	
5	1.00	5	1.00	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.50	Avg.	0.13	1	0.75
6	0.50	6	1.00	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	Avg.	0.54	Area	0	2	0.54
7	1.00	7	0.70	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.50
8	0.50	8	1.00	8	0.00	Avg.	0.07	8	1.00	8	1.00	8	0.67	WVU	0.0			4	0.50
9	0.70	9	1.00	9	0.00	Area	0	9	0.00	9	0.82	Avg.	0.25					5	0.10
10	1.00	10	1.00	Avg.	0.11	WVU	0.0	Avg.	0.46	Avg.	0.67	Area	0					Avg.	0.48
11	0.70	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	0.74	13	1.00																
Area	0	14	1.00																
WVU	0.0	Avg.	0.82																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	0.75	1	0.43	1	0.00	1	0.50	1	0.10	1	0.10	1	1.00	1	0.50	1	0.10	1	0.00
2	0.10	2	0.48	2	0.00	2	0.10	2	1.00	2	0.10	2	0.10	2	0.66	2	1.00	2	0.00
Avg.	0.43	3	1.00	3	0.00	Avg.	0.30	3	1.00	3	0.50	3	0.10	3	1.00	3	0.10	3	0.00
		4	0.50	Avg.	0.00			4	0.70	4	0.10	4	0.50	Avg.	0.72	Avg.	0.40	4	0.00
		Avg.	0.60	Area	0			5	0.50	Avg.	0.20	Avg.	0.43	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			Avg.	0.66	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									Avg.	0.00
																		Area	0.0
																		WVU	0.0

E:	7/28/93
INVESTIGATOR:	DG

WETLAND CODE:	NCUA F-2
TOTAL AREA:	12.95

Is wetland protected by regulatory rules or statute?	YES	NO X	WETLAND EVALUATION SCORE:	
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	WETLAND EVALUATION RANK:	
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO X	MANAGEMENT RECOMMENDATION	
Description:			*Protection*	
			Enhancement/Mitigation Opportunity	
Source:				
Is wetland a significant landscape feature?	YES	NO X		
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.54**	1	**0.50**	1	0.00	1	**0.55**	1	**1.00**	1	0.00	1	1.00	1	0.00	1	0.30
2	1.00	2	0.20	2	**1.00**	2	**1.00**	2	0.30	2	0.50	2	0.00	2	0.20	2	0.00	2	0.50
3	1.00	3	0.50	3	0.00	3	0.00	3	0.20	3	0.50	3	**0.55**	3	0.30	3	0.00	**Avg.**	**0.40**
4	0.10	4	**1.00**	4	0.00	4	0.00	4	**1.00**	4	0.50	4	**1.00**	4	0.10	4	**1.00**	**Part B**	
5	0.50	5	1.00	5	0.00	5	0.00	5	0.10	5	0.70	5	0.00	5	0.40	**Avg.**	**0.25**	1	**0.40**
6	0.50	6	0.30	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.40**	Area	12.95	2	**0.40**
7	0.30	7	0.30	7	0.00	7	0.00	7	0.70	7	0.50	7	0.00	Area	12.95	WVU	3.2	3	0.30
8	0.20	8	0.50	8	0.00	**Avg.**	**0.14**	8	0.70	8	0.70	8	**0.61**	WVU	5.2			4	0.30
9	0.30	9	0.10	9	0.00	Area	12.95	9	0.30	9	**0.55**	**Avg.**	**0.27**					5	0.10
10	0.20	10	0.10	**Avg.**	**0.17**	WVU	1.9	**Avg.**	**0.48**	**Avg.**	**0.61**	Area	12.95					**Avg.**	**0.30**
11	0.50	11	0.50	Area	12.95			Area	12.95	Area	12.95	WVU	3.5					Area	12.95
12	0.90	12	1.00	WVU	2.2			WVU	6.3	WVU	7.8							WVU	3.9
Avg.	**0.54**	13	1.00																
Area	12.95	14	0.60																
WVU	7.0	**Avg.**	**0.55**																
		Area	12.95																
		WVU	7.1																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.45**	1	0.00	1	0.50	1	0.20	1	**0.30**	1	**1.00**	1	**1.00**	1	1.00	1	0.00
2	0.50	2	**0.30**	2	0.00	2	0.30	2	1.00	2	**0.20**	2	**0.50**	2	**0.46**	2	0.00	2	0.00
Avg.	**0.45**	3	1.00	3	0.00	**Avg.**	**0.40**	3	**0.30**	3	**0.50**	3	0.20	3	0.70	3	0.00	3	0.00
		4	0.20	**Avg.**	**0.00**			4	**0.30**	4	0.50	4	**0.50**	**Avg.**	**0.72**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.49**	Area	12.95			5	0.50	**Avg.**	**0.38**	**Avg.**	**0.55**	Area	12.95	Area	12.95	5	0.00
		Area	12.95	WVU	0.0			**Avg.**	**0.46**	Area	12.95	Area	12.95	WVU	9.324	WVU	4.3166	6	0.00
		WVU	6.3					Area	12.95	WVU	4.8562	WVU	7.12					7	0.00
								WVU	6.0									**Avg.**	**0.00**
																		Area	13.0
																		WVU	0.0

DA:	7/7/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA F-3
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.10	1	**0.78**	1	**0.80**	1	0.00	1	**0.68**	1	**0.50**	1	0.00	1	0.10	1	0.00	1	1.00
2	0.40	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.10
3	0.50	3	0.80	3	0.00	3	0.00	3	0.30	3	1.00	3	**0.68**	3	0.50	3	0.00	**Avg.**	**0.55**
4	0.80	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.50**	4	0.40	4	**0.50**	**Part B**	
5	1.00	5	0.50	5	0.00	5	0.00	5	1.00	5	0.20	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.55**
6	1.00	6	0.50	6	0.00	6	0.00	6	0.40	6	1.00	6	0.00	**Avg.**	**0.32**	Area	0	2	**0.32**
7	0.70	7	0.70	7	0.00	7	0.00	7	0.60	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.30
8	0.80	8	1.00	8	0.00	**Avg.**	**0.07**	8	1.00	8	1.00	8	**0.76**	WVU	0.0			4	0.50
9	1.00	9	0.10	9	0.00	Area	0	9	0.10	9	**0.68**	**Avg.**	**0.24**					5	0.10
10	1.00	10	1.00	**Avg.**	**0.14**	WVU	0.0	**Avg.**	**0.52**	**Avg.**	**0.76**	Area	0					**Avg.**	**0.35**
11	1.00	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.78**	13	1.00																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.68**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.55**	1	**0.33**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	1.00	1	0.00
2	0.10	2	**0.35**	2	0.00	2	0.50	2	1.00	2	**0.30**	2	**1.00**	2	**0.62**	2	0.00	2	0.00
Avg.	**0.33**	3	1.00	3	0.00	**Avg.**	**0.60**	3	**0.50**	3	**0.40**	3	0.50	3	1.00	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.70**	4	0.50	4	**1.00**	**Avg.**	**0.71**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.54**	Area	0			5	0.80	**Avg.**	**0.33**	**Avg.**	**0.88**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.62**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	1.00
								WVU	0.0									**Avg.**	**0.14**
																		Area	0.0
																		WVU	0.0

DATE:	8/13/93
INVESTIGATOR:	DG

WETLAND CODE:	NCUA F-4
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.69**	1	**0.10**	1	0.00	1	**0.45**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	1.00	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	1.00	2	0.00	2	1.00
3	0.50	3	0.10	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.45**	3	0.10	3	0.00	**Avg.**	**0.75**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.50**	4	0.50	4	**0.50**	4	0.10	4	**0.50**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.66	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.75**
6	0.10	6	1.00	6	0.00	6	0.00	6	1.00	6	0.10	6	0.00	**Avg.**	**0.54**	Area	0	2	**0.54**
7	1.00	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0	WVU	0.0	3	1.00
8	0.10	8	1.00	8	0.00	**Avg.**	**0.07**	8	1.00	8	0.50	8	**0.36**	WVU	0.0			4	1.00
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.45**	**Avg.**	**0.16**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.53**	**Avg.**	**0.36**	Area	0					**Avg.**	**0.68**
11	1.00	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.69**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.45**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.75**	1	**0.88**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	1.00	1	0.00
2	1.00	2	**0.68**	2	0.00	2	1.00	2	1.00	2	**0.10**	2	**0.10**	2	**0.46**	2	0.20	2	0.00
Avg.	**0.88**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**1.00**	3	**1.00**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.10**	4	0.50	4	**0.10**	**Avg.**	**0.49**	**Avg.**	**0.40**	4	0.20
		Avg.	**0.76**	Area	0			5	0.10	**Avg.**	**0.43**	**Avg.**	**0.33**	Area	0	Area	0	5	0.20
		Area	0	WVU	0.0			**Avg.**	**0.46**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.06**
																		Area	0.0
																		WVU	0.0

DATE:	8/13/93
INVESTIGATOR:	DG

WETLAND CODE:	NCUA F-5
TOTAL AREA:	0.05

Is wetland protected by regulatory rules or statute?	YES	NO	X	**WETLAND EVALUATION SCORE:**
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	**WETLAND EVALUATION RANK:**
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO	X	**MANAGEMENT RECOMMENDATION**
Description:				Protection
				Enhancement/Mitigation Opportunity
Source:				
Is wetland a significant landscape feature?	YES	NO	X	
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.43**	1	**0.10**	1	0.00	1	**0.38**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.30	2	0.10	2	**0.70**	2	**0.70**	2	0.10	2	0.30	2	0.00	2	0.10	2	0.00	2	0.20
3	0.70	3	0.10	3	0.00	3	0.00	3	0.10	3	0.10	3	**0.38**	3	0.50	3	0.00	**Avg.**	**0.15**
4	0.10	4	**0.70**	4	0.00	4	0.00	4	**0.50**	4	0.30	4	**0.70**	4	0.50	4	**0.70**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.20	5	0.10	5	0.00	5	0.20	**Avg.**	**0.18**	1	**0.15**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.10	6	0.10	6	0.00	**Avg.**	**0.46**	Area	0.05	2	**0.46**
7	0.10	7	0.10	7	0.00	7	0.00	7	0.20	7	0.20	7	0.00	Area	0.05	WVU	0.0	3	0.10
8	0.10	8	0.50	8	0.00	**Avg.**	**0.10**	8	0.20	8	0.20	8	**0.24**	WVU	0.0			4	0.20
9	0.80	9	0.20	9	0.00	Area	0.05	9	0.30	9	**0.38**	**Avg.**	**0.17**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.09**	WVU	0.0	**Avg.**	**0.23**	**Avg.**	**0.24**	Area	0.05					**Avg.**	**0.20**
11	0.50	11	0.10	Area	0.05			Area	0.05	Area	0.05	WVU	0.0					Area	0.05
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.43**	13	0.50																
Area	0.05	14	1.00																
WVU	0.0	**Avg.**	**0.38**																
		Area	0.05																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.15**	1	**0.43**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**1.00**	1	**0.70**	1	1.00	1	0.00
2	0.70	2	**0.20**	2	0.00	2	0.70	2	1.00	2	**0.10**	2	**0.30**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.43**	3	0.70	3	0.00	**Avg.**	**0.70**	3	**0.50**	3	**0.10**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.52**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.41**	Area	0.05			5	0.10	**Avg.**	**0.10**	**Avg.**	**0.38**	Area	0.05	Area	0.05	5	0.00
		Area	0.05	WVU	0.0			**Avg.**	**0.36**	Area	0.05	Area	0.05	WVU	0.026	WVU	0.0166	6	0.00
		WVU	0.0					Area	0.05	WVU	0.005	WVU	0.02					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.1
																		WVU	0.0

TE:	6/29/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA F-6
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.58**	1	**0.40**	1	0.00	1	**0.30**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.10	2	0.00	2	0.30
3	0.50	3	0.40	3	0.00	3	0.00	3	0.20	3	0.70	3	**0.30**	3	0.70	3	0.00	**Avg.**	**0.40**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.50	5	0.10	5	0.00	5	0.10	**Avg.**	**0.13**	1	**0.40**
6	0.10	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.48**	Area	0	2	**0.48**
7	0.50	7	0.10	7	0.00	7	0.00	7	1.00	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.70	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.40	8	0.50	8	**0.48**	WVU	0.0			4	0.40
9	0.10	9	0.10	9	0.00	Area	0	9	0.50	9	**0.30**	**Avg.**	**0.16**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.10**	WVU	0.0	**Avg.**	**0.40**	**Avg.**	**0.48**	Area	0					**Avg.**	**0.30**
11	1.00	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.30	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.58**	13	0.10																
Area	0	14	0.70																
WVU	0.0	**Avg.**	**0.30**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.40**	1	**0.45**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.30**	2	0.00	2	0.70	2	0.10	2	**0.20**	2	**1.00**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.45**	3	1.00	3	0.00	**Avg.**	**0.70**	3	**0.10**	3	**0.50**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.20	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.53**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.49**	Area	0			5	0.10	**Avg.**	**0.23**	**Avg.**	**0.43**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.10**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	1.00
								WVU	0.0									**Avg.**	**0.14**
																		Area	0.0
																		WVU	0.0

TE:	6/30/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA G-1
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.78**	1	**0.10**	1	0.00	1	**0.62**	1	**0.80**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	1.00	2	0.00	2	0.50	2	0.00	2	0.50
3	0.50	3	0.10	3	0.00	3	0.00	3	1.00	3	0.50	3	**0.62**	3	1.00	3	0.00	**Avg.**	**0.30**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.80**	4	0.50	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	1.00	5	0.80	5	0.00	5	0.00	5	0.60	5	0.10	5	0.00	5	0.80	**Avg.**	**0.13**	1	**0.30**
6	0.50	6	0.10	6	0.00	6	0.00	6	1.00	6	1.00	6	0.00	**Avg.**	**0.76**	Area	0	2	**0.76**
7	1.00	7	1.00	7	0.00	7	0.00	7	0.90	7	1.00	7	0.00	Area	0	WVU	0.0	3	1.00
8	0.50	8	0.70	8	0.00	**Avg.**	**0.07**	8	0.90	8	1.00	8	**0.72**	WVU	0.0			4	1.00
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.62**	**Avg.**	**0.23**					5	0.10
10	1.00	10	0.90	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.71**	**Avg.**	**0.72**	Area	0					**Avg.**	**0.63**
11	0.80	11	1.00	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.80	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.78**	13	0.80																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.62**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.40**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.63**	2	0.00	2	1.00	2	1.00	2	**1.00**	2	**1.00**	2	**0.60**	2	0.00	2	0.00
Avg.	**0.40**	3	1.00	3	0.00	**Avg.**	**0.85**	3	**0.10**	3	**1.00**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**1.00**	4	0.10	4	**1.00**	**Avg.**	**0.70**	**Avg.**	**0.03**	4	1.00
		Avg.	**0.58**	Area	0			5	0.80	**Avg.**	**0.55**	**Avg.**	**0.78**	Area	0	Area	0	5	1.00
		Area	0	WVU	0.0			**Avg.**	**0.60**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.29**
																		Area	0.0
																		WVU	0.0

:	6/30/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA G-2
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.73**	1	**0.10**	1	0.00	1	**0.56**	1	**0.80**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.70	2	0.00	2	0.50	2	0.00	2	0.50
3	0.50	3	0.10	3	0.00	3	0.00	3	0.50	3	0.70	3	**0.56**	3	1.00	3	0.00	**Avg.**	**0.30**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.80**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	**Part B**	
5	1.00	5	0.80	5	0.00	5	0.00	5	0.50	5	0.10	5	0.00	5	0.50	**Avg.**	**0.13**	1	**0.30**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.70**	Area	0	2	**0.70**
7	1.00	7	0.50	7	0.00	7	0.00	7	0.90	7	0.50	7	0.00	Area	0	WVU	0.0	3	0.50
8	0.50	8	0.70	8	0.00	**Avg.**	**0.07**	8	0.90	8	0.50	8	**0.60**	WVU	0.0			4	0.70
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.56**	**Avg.**	**0.21**					5	0.10
10	1.00	10	0.90	**Avg.**	**0.07**	WVU	0.0	**Avg.**	**0.58**	**Avg.**	**0.60**	Area	0					**Avg.**	**0.46**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	0.80	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.73**	13	1.00																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.56**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.40**	1	0.00	1	0.80	1	0.10	1	**0.10**	1	**1.00**	1	**0.50**	1	0.10	1	0.00
2	0.50	2	**0.46**	2	0.00	2	1.00	2	1.00	2	**0.50**	2	**0.70**	2	**0.48**	2	0.00	2	0.00
Avg.	**0.40**	3	1.00	3	0.00	**Avg.**	**0.90**	3	**0.10**	3	**0.50**	3	0.10	3	1.00	3	0.00	3	0.00
		4	0.30	**Avg.**	**0.00**			4	**0.50**	4	0.10	4	**0.50**	**Avg.**	**0.66**	**Avg.**	**0.03**	4	0.50
		Avg.	**0.54**	Area	0			5	0.70	**Avg.**	**0.30**	**Avg.**	**0.58**	Area	0	Area	0	5	0.50
		Area	0	WVU	0.0			**Avg.**	**0.48**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.14**
																		Area	0.0
																		WVU	0.0

E:	6/30/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA G-3
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO X	WETLAND EVALUATION SCORE:	
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	WETLAND EVALUATION RANK:	
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO X	MANAGEMENT RECOMMENDATION	
Description:			Protection	
			Enhancement/Mitigation Opportunity	
Source:				
Is wetland a significant landscape feature?	YES	NO X		
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.48**	1	**0.10**	1	0.00	1	**0.18**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.50
3	0.10	3	0.10	3	0.00	3	0.00	3	0.30	3	0.20	3	**0.18**	3	0.50	3	0.00	**Avg.**	**0.30**
4	0.50	4	**0.10**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.10**	4	0.50	4	**0.10**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.10	5	0.10	5	0.00	5	0.10	**Avg.**	**0.03**	1	**0.30**
6	0.50	6	0.10	6	0.00	6	0.00	6	0.50	6	0.10	6	0.00	**Avg.**	**0.44**	Area	0	2	**0.44**
7	0.40	7	0.10	7	0.00	7	0.00	7	0.20	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.10	8	0.00	**Avg.**	**0.01**	8	0.10	8	0.10	8	**0.16**	WVU	0.0			4	0.10
9	0.10	9	0.10	9	0.00	Area	0	9	0.50	9	**0.18**	**Avg.**	**0.06**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.02**	WVU	0.0	**Avg.**	**0.23**	**Avg.**	**0.16**	Area	0					**Avg.**	**0.21**
11	0.10	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.30	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.48**	13	0.10																
Area	0	14	0.70																
WVU	0.0	**Avg.**	**0.18**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.65**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.10**	1	0.10	1	0.00
2	1.00	2	**0.21**	2	0.00	2	1.00	2	0.10	2	**0.30**	2	**0.10**	2	**0.10**	2	0.00	2	0.00
Avg.	**0.65**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**0.10**	3	**0.50**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.10**	**Avg.**	**0.23**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.49**	Area	0			5	0.10	**Avg.**	**0.25**	**Avg.**	**0.10**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.10**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	8/18/93
INVESTIGATOR:	DG/DS

WETLAND CODE:	NCUA H-1
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO	X
Description:			
Source:			
Is wetland a significant landscape feature?	YES	NO	X
Description:			

WETLAND EVALUATION SCORE:	
WETLAND EVALUATION RANK:	
MANAGEMENT RECOMMENDATION	
Protection	
Enhancement/Mitigation Opportunity	

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.63**	1	**0.30**	1	0.00	1	**0.38**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.50	2	0.00	2	0.50
3	0.50	3	0.30	3	0.00	3	0.00	3	0.10	3	0.50	3	**0.38**	3	0.20	3	0.00	**Avg.**	**0.30**
4	0.10	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	0.70	4	**0.50**	4	0.70	4	**0.50**	**Part B**	
5	0.50	5	0.10	5	0.00	5	0.00	5	0.60	5	0.10	5	0.00	5	0.30	**Avg.**	**0.13**	1	**0.30**
6	0.30	6	0.80	6	0.00	6	0.00	6	1.00	6	0.50	6	0.00	**Avg.**	**0.54**	Area	0	2	**0.54**
7	0.50	7	0.20	7	0.00	7	0.00	7	0.50	7	0.30	7	0.00	Area	0	WVU	0.0	3	0.20
8	0.70	8	0.10	8	0.00	**Avg.**	**0.07**	8	0.50	8	0.50	8	**0.35**	WVU	0.0			4	0.30
9	1.00	9	0.10	9	0.00	Area	0	9	0.30	9	**0.38**	**Avg.**	**0.15**					5	0.10
10	1.00	10	0.30	**Avg.**	**0.09**	WVU	0.0	**Avg.**	**0.40**	**Avg.**	**0.35**	Area	0					**Avg.**	**0.29**
11	1.00	11	0.20	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.63**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.38**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.30**	1	**0.35**	1	0.00	1	0.70	1	0.10	1	**0.10**	1	**0.20**	1	**0.50**	1	1.00	1	0.00
2	0.40	2	**0.29**	2	0.00	2	0.50	2	0.20	2	**0.10**	2	**0.10**	2	**0.34**	2	0.70	2	0.00
Avg.	**0.35**	3	1.00	3	0.00	**Avg.**	**0.60**	3	**0.80**	3	**1.00**	3	0.10	3	0.20	3	0.00	3	0.00
		4	0.20	**Avg.**	**0.00**			4	**0.20**	4	0.40	4	**0.50**	**Avg.**	**0.35**	**Avg.**	**0.57**	4	0.00
		Avg.	**0.46**	Area	0			5	0.40	**Avg.**	**0.40**	**Avg.**	**0.23**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.34**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	7/7/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA H-2
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X	**WETLAND EVALUATION SCORE:**
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	**WETLAND EVALUATION RANK:**
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO	X	**MANAGEMENT RECOMMENDATION**
Description:				Protection
				Enhancement/Mitigation Opportunity
Source:				
Is wetland a significant landscape feature?	YES	NO	X	
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.46**	1	**0.30**	1	0.00	1	**0.41**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.20	2	0.10	2	**0.20**	2	**0.20**	2	0.20	2	0.50	2	0.00	2	0.10	2	0.00	2	1.00
3	0.20	3	0.30	3	0.00	3	0.00	3	0.50	3	0.50	3	**0.41**	3	0.50	3	0.00	**Avg.**	**0.55**
4	0.10	4	**0.20**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.20**	4	0.40	4	**0.20**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.30	5	0.10	5	0.00	5	0.40	**Avg.**	**0.05**	1	**0.55**
6	0.20	6	0.50	6	0.00	6	0.00	6	0.30	6	0.50	6	0.00	**Avg.**	**0.48**	Area	0	2	**0.48**
7	0.50	7	0.20	7	0.00	7	0.00	7	0.50	7	0.40	7	0.00	Area	0	WVU	0.0	3	0.30
8	0.20	8	0.50	8	0.00	**Avg.**	**0.03**	8	0.40	8	0.10	8	**0.35**	WVU	0.0			4	0.80
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.41**	**Avg.**	**0.12**					5	0.10
10	1.00	10	0.60	**Avg.**	**0.06**	WVU	0.0	**Avg.**	**0.36**	**Avg.**	**0.35**	Area	0					**Avg.**	**0.45**
11	0.10	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	0.70	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.46**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.41**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.55**	1	**0.58**	1	0.00	1	1.00	1	0.10	1	**0.20**	1	**0.10**	1	**0.20**	1	1.00	1	0.00
2	0.60	2	**0.45**	2	0.00	2	1.00	2	0.10	2	**0.50**	2	**0.50**	2	**0.24**	2	0.00	2	0.00
Avg.	**0.58**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**0.50**	3	**0.30**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.50	**Avg.**	**0.00**			4	**0.20**	4	0.50	4	**0.50**	**Avg.**	**0.31**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.63**	Area	0			5	0.30	**Avg.**	**0.38**	**Avg.**	**0.30**	Area	0	Area	0	5	0.50
		Area	0	WVU	0.0			**Avg.**	**0.24**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.50
								WVU	0.0									**Avg.**	**0.14**
																		Area	0.0
																		WVU	0.0

E:	8/3/93
INVESTIGATOR:	FS/DS

WETLAND CODE:	NCUA H-3
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO X	WETLAND EVALUATION SCORE:	
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	WETLAND EVALUATION RANK:	
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO X	MANAGEMENT RECOMMENDATION	
Description:			Protection	
			Enhancement/Mitigation Opportunity	
Source:				
Is wetland a significant landscape feature?	YES	NO X		
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.50	1	**0.66**	1	**0.50**	1	0.00	1	**0.48**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.50	2	0.10	2	**0.50**	2	**0.50**	2	0.10	2	0.10	2	0.00	2	0.10	2	0.00	2	0.25
3	0.50	3	0.50	3	0.00	3	0.00	3	0.10	3	0.70	3	**0.48**	3	0.10	3	0.00	**Avg.**	**0.38**
4	0.50	4	**0.50**	4	0.00	4	0.00	4	**0.10**	4	1.00	4	**0.50**	4	0.50	4	**0.50**	Part B	
5	0.50	5	0.10	5	0.00	5	0.00	5	1.00	5	0.10	5	0.00	5	0.70	**Avg.**	**0.13**	1	**0.38**
6	0.50	6	1.00	6	0.00	6	0.00	6	0.10	6	0.50	6	0.00	**Avg.**	**0.48**	Area	0	2	**0.48**
7	0.70	7	0.10	7	0.00	7	0.00	7	0.50	7	0.10	7	0.00	Area	0	WVU	0.0	3	0.30
8	0.70	8	0.50	8	0.00	**Avg.**	**0.07**	8	0.50	8	1.00	8	**0.45**	WVU	0.0			4	0.70
9	0.50	9	0.10	9	0.00	Area	0	9	0.00	9	**0.48**	**Avg.**	**0.18**					5	0.10
10	1.00	10	0.10	**Avg.**	**0.11**	WVU	0.0	**Avg.**	**0.32**	**Avg.**	**0.45**	Area	0					**Avg.**	**0.39**
11	1.00	11	0.50	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	1.00	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.66**	13	1.00																
Area	0	14	0.50																
WVU	0.0	**Avg.**	**0.48**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.44**	1	0.00	1	0.50	1	0.10	1	**0.10**	1	**0.10**	1	**0.50**	1	1.00	1	0.00
2	0.50	2	**0.39**	2	0.00	2	0.50	2	0.10	2	**0.10**	2	**0.10**	2	**0.36**	2	0.00	2	0.00
Avg.	**0.44**	3	1.00	3	0.00	**Avg.**	**0.50**	3	**1.00**	3	**0.10**	3	0.10	3	0.50	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	1.00	4	**0.50**	**Avg.**	**0.45**	**Avg.**	**0.33**	4	0.00
		Avg.	**0.48**	Area	0			5	0.50	**Avg.**	**0.33**	**Avg.**	**0.20**	Area	0	Area	0	5	0.00
		Area	0	WVU	0.0			**Avg.**	**0.36**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

E:	6/30/93
INVESTIGATOR:	DS

WETLAND CODE:	NCUA H-4
TOTAL AREA:	

Is wetland protected by regulatory rules or statute?	YES	NO	X	**WETLAND EVALUATION SCORE:**
Description:				
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO	X	**WETLAND EVALUATION RANK:**
Description:				
Source:				
Is wetland designated as critical habitat for RTE species?	YES	NO	X	**MANAGEMENT RECOMMENDATION**
Description:				Protection
Source:				Enhancement/Mitigation Opportunity
Is wetland a significant landscape feature?	YES	NO	X	
Description:				

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	1.00	1	**0.49**	1	**0.10**	1	0.00	1	**0.46**	1	**0.10**	1	0.00	1	1.00	1	0.00	1	0.10
2	0.10	2	0.30	2	**0.80**	2	**0.80**	2	0.10	2	0.30	2	0.00	2	0.10	2	0.00	2	1.00
3	0.80	3	0.10	3	0.00	3	0.00	3	0.50	3	0.10	3	**0.46**	3	0.50	3	0.00	**Avg.**	**0.55**
4	0.10	4	**0.80**	4	0.00	4	0.00	4	**0.10**	4	0.50	4	**0.80**	4	0.50	4	**0.80**	**Part B**	
5	1.00	5	0.10	5	0.00	5	0.00	5	0.20	5	0.10	5	0.00	5	0.30	**Avg.**	**0.20**	1	**0.55**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.20	6	0.20	6	0.00	**Avg.**	**0.48**	Area	0	2	**0.48**
7	0.10	7	0.50	7	0.00	7	0.00	7	0.10	7	0.30	7	0.00	Area	0	WVU	0.0	3	0.10
8	0.10	8	0.70	8	0.00	**Avg.**	**0.11**	8	0.10	8	0.10	8	**0.24**	WVU	0.0			4	0.40
9	1.00	9	0.10	9	0.00	Area	0	9	0.50	9	**0.46**	**Avg.**	**0.19**					5	0.10
10	1.00	10	0.30	**Avg.**	**0.10**	WVU	0.0	**Avg.**	**0.25**	**Avg.**	**0.24**	Area	0					**Avg.**	**0.33**
11	0.10	11	0.10	Area	0			Area	0	Area	0	WVU	0.0					Area	0
12	0.50	12	1.00	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.49**	13	0.50																
Area	0	14	1.00																
WVU	0.0	**Avg.**	**0.46**																
		Area	0																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.55**	1	**0.78**	1	0.00	1	1.00	1	1.00	1	**0.10**	1	**0.50**	1	**0.80**	1	0.50	1	0.00
2	1.00	2	**0.33**	2	0.00	2	1.00	2	0.50	2	**0.50**	2	**0.30**	2	**0.54**	2	0.00	2	0.00
Avg.	**0.78**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**0.50**	3	**0.20**	3	0.10	3	0.10	3	0.00	3	0.00
		4	1.00	**Avg.**	**0.00**			4	**0.50**	4	0.30	4	**0.20**	**Avg.**	**0.48**	**Avg.**	**0.17**	4	0.00
		Avg.	**0.78**	Area	0			5	0.20	**Avg.**	**0.28**	**Avg.**	**0.28**	Area	0	Area	0	5	1.00
		Area	0	WVU	0.0			**Avg.**	**0.54**	Area	0	Area	0	WVU	0	WVU	0	6	0.00
		WVU	0.0					Area	0	WVU	0	WVU	0.00					7	0.00
								WVU	0.0									**Avg.**	**0.14**
																		Area	0.0
																		WVU	0.0

ATE:	8/3/93
INVESTIGATOR:	FS/DS

WETLAND CODE:	NCUA H-5
TOTAL AREA:	0.03

Is wetland protected by regulatory rules or statute?	YES	NO X	**WETLAND EVALUATION SCORE:**
Description:			
Does wetland contain rare, threatened, or endangered (RTE) species?	YES	NO X	**WETLAND EVALUATION RANK:**
Description:			
Source:			
Is wetland designated as critical habitat for RTE species?	YES	NO X	**MANAGEMENT RECOMMENDATION**
Description:			Protection
			Enhancement/Mitigation Opportunity
Source:			
Is wetland a significant landscape feature?	YES	NO X	
Description:			

FV 1 Ecol. Integ.		FV 2 Wild. Habitat		FV 3 Part A		FV 3 Part B		FV 4 Educ. Potent.		FV 5 Vis/Aeth. Qual.		FV 6 Water Recr.		FV7 Flood Control		FV8 Grnd. Water		FV9 Sedim. Part A	
1	0.10	1	**0.42**	1	**0.10**	1	0.00	1	**0.31**	1	**0.50**	1	0.00	1	1.00	1	0.00	1	0.50
2	0.10	2	0.10	2	**0.10**	2	**0.10**	2	0.10	2	0.30	2	0.00	2	0.10	2	0.00	2	0.25
3	0.10	3	0.10	3	0.00	3	0.00	3	0.50	3	0.50	3	**0.31**	3	0.10	3	0.00	**Avg.**	**0.38**
4	0.30	4	**0.10**	4	0.00	4	0.00	4	**0.50**	4	1.00	4	**0.10**	4	0.50	4	**0.10**	**Part B**	
5	0.50	5	0.50	5	0.00	5	0.00	5	0.33	5	0.10	5	0.00	5	0.30	**Avg.**	**0.03**	1	**0.38**
6	0.10	6	0.50	6	0.00	6	0.00	6	0.50	6	0.50	6	0.00	**Avg.**	**0.40**	Area	0.03	2	**0.40**
7	0.50	7	0.10	7	0.00	7	0.00	7	0.50	7	0.50	7	0.00	Area	0.03	WVU	0.0	3	0.10
8	0.10	8	0.10	8	0.00	**Avg.**	**0.01**	8	0.50	8	0.50	8	**0.47**	WVU	0.0			4	0.10
9	1.00	9	0.10	9	0.00	Area	0.03	9	0.50	9	**0.31**	**Avg.**	**0.11**					5	0.10
10	1.00	10	0.50	**Avg.**	**0.02**	WVU	0.0	**Avg.**	**0.42**	**Avg.**	**0.47**	Area	0.03					**Avg.**	**0.22**
11	0.50	11	0.10	Area	0.03			Area	0.03	Area	0.03	WVU	0.0					Area	0.03
12	0.70	12	0.50	WVU	0.0			WVU	0.0	WVU	0.0							WVU	0.0
Avg.	**0.42**	13	0.50																
Area	0.03	14	0.75																
WVU	0.0	**Avg.**	**0.31**																
		Area	0.03																
		WVU	0.0																

FV10 Part A		Nutr. Atten. Part B		FV11 Shore. Anchor.		FV12 Urban Quality of Life Part A		Part B		Part C		Part D		Part E		FV13 Historic Pot.		FV14 Noteworth.	
1	**0.38**	1	**0.54**	1	0.00	1	1.00	1	0.10	1	**0.10**	1	**0.10**	1	**0.10**	1	0.10	1	0.00
2	0.70	2	**0.22**	2	0.00	2	1.00	2	0.10	2	**0.50**	2	**0.30**	2	**0.18**	2	0.00	2	0.00
Avg.	**0.54**	3	1.00	3	0.00	**Avg.**	**1.00**	3	**0.50**	3	**0.50**	3	0.10	3	0.70	3	0.00	3	0.00
		4	0.10	**Avg.**	**0.00**			4	**0.10**	4	0.10	4	**0.50**	**Avg.**	**0.33**	**Avg.**	**0.03**	4	0.00
		Avg.	**0.46**	Area	0.03			5	0.10	**Avg.**	**0.30**	**Avg.**	**0.25**	Area	0.03	Area	0.03	5	0.00
		Area	0.03	WVU	0.0			**Avg.**	**0.18**	Area	0.03	Area	0.03	WVU	0.0098	WVU	0.001	6	0.00
		WVU	0.0					Area	0.03	WVU	0.009	WVU	0.01					7	0.00
								WVU	0.0									**Avg.**	**0.00**
																		Area	0.0
																		WVU	0.0

Modified Functions and Values Assessment Ratings (ranked by site)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
A-08	1.50	NOT ASSESSED														
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-08	0.22	NOT ASSESSED														
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20

Modified Functions and Values Assessment Ratings (ranked by site)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40

Modified Functions and Values Assessment Ratings (ranked by site)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Ecol. Int.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92

Modified Functions and Values Assessment Ratings (ranked by Ecol. Int.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16

Modified Functions and Values Assessment Ratings (ranked by Ecol. Int.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35

Modified Functions and Values Assessment Ratings (ranked by Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81

Modified Functions and Values Assessment Ratings (ranked by Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Flood Cont.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70

Modified Functions and Values Assessment Ratings (ranked by Flood Cont.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81

Modified Functions and Values Assessment Ratings (ranked by Flood Cont.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Sed. Trap.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24

Modified Functions and Values Assessment Ratings (ranked by Sed. Trap.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95

Modified Functions and Values Assessment Ratings (ranked by Sed. Trap.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Nutr. Atten.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09

Modified Functions and Values Assessment Ratings (ranked by Nutr. Atten.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52

Modified Functions and Values Assessment Ratings (ranked by Nutr. Atten.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Educ. Potent.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88

Modified Functions and Values Assessment Ratings (ranked by Educ. Potent.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88

Modified Functions and Values Assessment Ratings (ranked by Educ. Potent.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Urban Set.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28

Modified Functions and Values Assessment Ratings (ranked by Urban Set.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67

Modified Functions and Values Assessment Ratings (ranked by Urban Set.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Urb. Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89

Modified Functions and Values Assessment Ratings (ranked by Urb. Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24

Modified Functions and Values Assessment Ratings (ranked by Urb. Wild. Hab.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														

AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Urb. Educ. Oppor.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88

Modified Functions and Values Assessment Ratings (ranked by Urb. Educ. Oppor.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52

Modified Functions and Values Assessment Ratings (ranked by Urb. Educ. Oppor.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52

Modified Functions and Values Assessment Ratings (ranked by Vis./Aes. Qual.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Water–based Rec.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER–BASED REC.		
		FV–1	*FV–2*	*FV–7*	*FV–9*	*FV–10*		*FV–4*	*FV–5*	*FV–12a*	*FV–12b*	*FV–12c*	*FV–12d*	*FV–12e*		
C–03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C–04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C–07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
D–03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
F–01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
F–02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
F–03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
G–01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
A–04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
G–02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
B–01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
D–02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
D–05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28
D–01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
C–02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
B–03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
F–06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
F–05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
B–06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
B–20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
F–04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
H–04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
A–01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
B–02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
H–03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08

Modified Functions and Values Assessment Ratings (ranked by Water–based Rec.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER–BASED REC.		
		FV–1	*FV–2*	*FV–7*	*FV–9*	*FV–10*		*FV–4*	*FV–5*	*FV–12a*	*FV–12b*	*FV–12c*	*FV–12d*	*FV–12e*		
B–05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
C–06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
A–03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
B–04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
E–02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
B–16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
B–07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91
B–18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
H–01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
C–05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
H–05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
B–13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B–21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
B–17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
H–02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
A–02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
C–01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
B–12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
C–08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
B–14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B–15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
D–04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
B–09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
G–03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
A–05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88

Modified Functions and Values Assessment Ratings (ranked by Water–based Rec.)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER–BASED REC.		
		FV–1	*FV–2*	*FV–7*	*FV–9*	*FV–10*		*FV–4*	*FV–5*	*FV–12a*	*FV–12b*	*FV–12c*	*FV–12d*	*FV–12e*		
A–07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
B–10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
B–11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
E–01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
A–06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A–08	1.50	NOT ASSESSED														
B–08	0.22	NOT ASSESSED														
E–03	0.10	NOT ASSESSED														
E–04	6.09	NOT ASSESSED														
F–07	0.59	NOT ASSESSED														
F–08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Modified Functions and Values Assessment Ratings (ranked by Total Score)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	8.07
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	8.03
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	7.86
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	7.26
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	7.24
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	7.22
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	7.09
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	7.05
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	6.94
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	6.82
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	6.67
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	6.67
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	5.91
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	0.45	0.34	1.00	0.36	0.43	0.33	0.32	3.23	5.89
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	5.89
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	5.87
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	5.84
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	5.72
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	5.72
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	5.48
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	5.40
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	5.38
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	5.28
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	5.28

Modified Functions and Values Assessment Ratings (ranked by Total Score)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	5.22
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	5.08
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	5.05
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	4.92
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	0.47	1.00	0.18	0.30	0.25	0.33	2.95	4.88
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	4.87
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	4.81
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	4.73
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	4.70
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	4.69
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.34	0.41	0.75	0.36	0.10	0.13	0.32	2.41	4.52
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.37	0.51	0.60	0.10	0.23	0.48	0.37	2.66	4.45
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	4.40
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	4.35
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	4.24
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	4.23
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	4.20
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	4.18
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.42	0.45	0.50	0.10	0.40	0.20	0.30	2.37	4.16
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	4.08
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	4.03
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	4.00
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	3.99
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.29	0.49	0.75	0.10	0.20	0.30	0.23	2.36	3.95
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	3.91

Modified Functions and Values Assessment Ratings (ranked by Total Score)

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS:					ECOL. FUNCT. SUMMED SCORE	SOCIAL VALUES:							SOCIAL VALUES SUMMED SCORE	TOTAL SCORE
								URBAN QUALITY OF LIFE:								
		ECOL. INT.	WILD. HAB.	FLOOD CONT.	SED. TRAP.	NUTR. ATTEN.		EDUC. POTENT.	VIS./AES. QUAL.	URBAN SET.	URB. WILD. HAB.	URB. EDUC. OPPOR.	VIS./ AES. QUAL.	WATER-BASED REC.		
		FV-1	*FV-2*	*FV-7*	*FV-9*	*FV-10*		*FV-4*	*FV-5*	*FV-12a*	*FV-12b*	*FV-12c*	*FV-12d*	*FV-12e*		
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.17	0.35	0.60	0.10	0.10	0.55	0.27	2.14	3.90
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	3.88
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	3.73
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	3.68
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	2.95
A-08	1.50	NOT ASSESSED														
B-08	0.22	NOT ASSESSED														
E-03	0.10	NOT ASSESSED														
E-04	6.09	NOT ASSESSED														
F-07	0.59	NOT ASSESSED														
F-08	0.64	NOT ASSESSED														
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.41	0.47	0.64	0.34	0.31	0.37	0.44	2.98	5.30
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.17	0.16	0.10	0.02	0.10	0.10	0.09	1.36	2.95
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	8.07

Goal 5 Significance Rating

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS: ECOL. INT. FV-1	WILD. HAB. FV-2	FLOOD CONT. FV-7	SED. TRAP. FV-9	NUTR. ATTEN. FV-10	ECOL. FUNCT. SUMMED SCORE	X ADJ	%	
A-01	4.97	0.83	0.76	0.62	0.52	0.52	3.25	1.74	100	
F-01	2.09	0.74	0.82	0.54	0.62	0.52	3.23	1.72	98.56	
F-04	13.17	0.69	0.45	0.54	0.72	0.82	3.22	1.70	97.69	
G-01	7.63	0.78	0.62	0.76	0.47	0.49	3.12	1.60	91.93	
C-07	0.04	0.79	0.75	0.42	0.52	0.56	3.04	1.53	87.61	
D-02	7.57	0.83	0.65	0.52	0.42	0.59	3.01	1.50	85.88	
D-03	18.42	0.93	0.79	0.56	0.33	0.33	2.94	1.42	81.56	
C-03	0.17	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
C-04	0.34	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
C-05	0.81	0.93	0.80	0.42	0.35	0.41	2.91	1.39	79.83	
G-02	6.75	0.73	0.56	0.70	0.38	0.47	2.84	1.33	76.08	
B-01	1.81	0.76	0.52	0.28	0.61	0.59	2.76	1.24	71.18	
B-16	1.96	0.63	0.67	0.44	0.44	0.58	2.75	1.24	70.89	
D-05	0.09	0.71	0.59	0.36	0.47	0.55	2.68	1.16	66.57	
F-03	0.15	0.78	0.68	0.32	0.45	0.44	2.67	1.15	65.99	
B-21	0.62	0.60	0.53	0.36	0.61	0.56	2.66	1.15	65.71	
H-04	1.75	0.49	0.46	0.48	0.44	0.78	2.65	1.14	65.13	
A-04	0.38	0.74	0.56	0.44	0.46	0.41	2.60	1.09	62.25	60th %
E-02	0.10	0.53	0.47	0.44	0.46	0.62	2.51	1.00	57.06	
H-03	0.01	0.66	0.48	0.48	0.39	0.46	2.47	0.95	54.47	
B-05	4.31	0.76	0.38	0.54	0.39	0.39	2.46	0.94	53.89	
H-02	0.42	0.46	0.41	0.48	0.50	0.61	2.46	0.94	53.89	
D-01	4.45	0.50	0.53	0.50	0.43	0.49	2.45	0.93	53.31	
B-06	10.93	0.61	0.60	0.52	0.31	0.38	2.42	0.91	51.87	
B-12	0.33	0.56	0.42	0.48	0.50	0.44	2.40	0.88	50.43	
C-02	1.49	0.64	0.52	0.36	0.44	0.43	2.39	0.87	49.86	<= Median
D-04	4.81	0.81	0.46	0.36	0.35	0.36	2.34	0.82	46.97	<= Mean
F-02	12.95	0.54	0.55	0.40	0.35	0.47	2.31	0.80	45.53	
B-20	17.56	0.72	0.51	0.44	0.32	0.32	2.31	0.79	45.24	
B-04	0.90	0.72	0.40	0.44	0.30	0.44	2.30	0.79	44.96	
B-03	0.16	0.73	0.42	0.46	0.31	0.36	2.28	0.76	43.52	
H-01	0.25	0.63	0.38	0.54	0.30	0.41	2.25	0.74	42.07	
B-02	0.92	0.58	0.53	0.44	0.30	0.38	2.23	0.72	40.92	
F-06	0.05	0.58	0.30	0.48	0.35	0.47	2.18	0.67	38.04	
B-13	3.12	0.44	0.45	0.58	0.32	0.32	2.11	0.59	33.72	
A-03	0.11	0.52	0.34	0.36	0.37	0.48	2.07	0.55	31.41	
B-17	0.20	0.43	0.39	0.38	0.38	0.42	2.00	0.49	27.67	30th %
H-05	0.03	0.42	0.31	0.40	0.30	0.50	1.93	0.42	23.63	

Goal 5 Significance Rating

SITE	WETLAND ACREAGE	ECOLOGICAL FUNCTIONS: ECOL. INT. FV-1	WILD. HAB. FV-2	FLOOD CONT. FV-7	SED. TRAP. FV-9	NUTR. ATTEN. FV-10	ECOL. FUNCT. SUMMED SCORE	X ADJ	%	
G-03	0.10	0.48	0.18	0.44	0.26	0.57	1.93	0.41	23.34	
B-11	1.80	0.37	0.45	0.52	0.19	0.38	1.91	0.39	22.19	25th %
A-05	0.16	0.53	0.44	0.44	0.14	0.35	1.89	0.38	21.33	(mean/2)
F-05	0.07	0.43	0.38	0.46	0.18	0.42	1.87	0.35	19.88	
B-10	0.60	0.44	0.40	0.52	0.14	0.35	1.85	0.34	19.02	
B-07	0.24	0.63	0.42	0.36	0.18	0.25	1.83	0.32	17.87	
B-14	0.33	0.52	0.40	0.40	0.18	0.31	1.81	0.30	16.71	
A-02	0.09	0.41	0.26	0.40	0.29	0.43	1.79	0.28	15.56	
B-18	0.35	0.33	0.32	0.44	0.26	0.44	1.79	0.28	15.56	
C-08	0.06	0.34	0.25	0.36	0.28	0.53	1.76	0.25	13.83	
C-01	3.14	0.39	0.34	0.36	0.25	0.41	1.75	0.23	12.97	
B-15	0.32	0.43	0.37	0.40	0.18	0.31	1.69	0.18	9.80	
E-01	0.34	0.43	0.24	0.46	0.19	0.38	1.69	0.18	9.80	
C-06	0.09	0.38	0.27	0.36	0.25	0.41	1.67	0.15	8.36	
A-06	0.29	0.45	0.31	0.36	0.13	0.35	1.59	0.08	4.03	
B-09	0.13	0.45	0.23	0.36	0.18	0.37	1.59	0.07	3.75	
A-07	0.54	0.42	0.38	0.36	0.15	0.21	1.52	0.00	0	
A-08	1.50	NOT ASSESSED								
B-08	0.22	NOT ASSESSED								
E-03	0.10	NOT ASSESSED								
E-04	6.09	NOT ASSESSED								
F-07	0.59	NOT ASSESSED – PART OF PUD (SIGNIFICANT)								
F-08	0.64	NOT ASSESSED								
AVG.	2.45	0.60	0.43	0.45	0.35	0.45	2.32	0.81	46.34	
MIN.	0.01	0.33	0.00	0.28	0.13	0.21	1.52	0.00	0.00	
MAX.	18.42	0.93	0.82	0.76	0.72	0.82	3.25	1.74	100.00	

26 Sites > Mean
29 Sites < Mean

55 Sites Assessed
5 Sites Not Assessed (marginally wetland)

60 Total Sites (excluding gravel and sewage ponds)

Social Values to be considered in Goal 5 ESEE Analysis

SITE	WETLAND ACREAGE	SOCIAL VALUES: URBAN QUALITY OF LIFE: EDUC. POTENT. *FV-4*	VIS./AES. QUAL. *FV-5*	URBAN SET. *FV-12a*	URB. WILD. HAB. *FV-12b*	URB. EDUC. OPPOR. *FV-12c*	VIS./ AES. QUAL. *FV-12d*	WATER-BASED REC. *FV-12e*	SOCIAL VALUES SUMMED SCORE	X ADJ	%
D-03	18.42	0.80	0.80	0.25	0.72	0.75	1.00	0.81	5.13	3.77	100
G-01	7.63	0.71	0.72	0.85	0.60	0.55	0.78	0.70	4.91	3.55	94.16
A-01	4.97	0.89	0.66	0.63	0.64	0.78	0.55	0.46	4.61	3.25	86.21
B-01	1.81	0.52	0.78	0.50	0.80	0.30	1.00	0.60	4.50	3.14	83.29
F-03	0.15	0.52	0.76	0.60	0.62	0.33	0.88	0.71	4.42	3.06	81.17
C-03	0.17	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	2.97	78.78
C-04	0.34	0.73	0.68	0.50	0.58	0.63	0.35	0.86	4.33	2.97	78.78
C-05	0.81	0.73	0.68	0.50	0.58	0.63	0.86	0.33	4.31	2.95	78.25
G-02	6.75	0.58	0.60	0.90	0.48	0.30	0.58	0.66	4.10	2.74	72.68
C-07	0.04	0.73	0.51	0.35	0.54	0.80	0.23	0.85	4.01	2.65	70.29
D-02	7.57	0.67	0.59	0.35	0.50	0.60	0.35	0.60	3.66	2.30	61.01
F-02	12.95	0.48	0.61	0.40	0.46	0.38	0.55	0.72	3.60	2.24	59.42
F-04	13.17	0.53	0.36	1.00	0.46	0.43	0.33	0.49	3.60	2.24	59.42
C-02	1.49	0.46	0.47	0.85	0.36	0.53	0.28	0.55	3.50	2.14	56.76
F-01	2.09	0.46	0.67	0.30	0.66	0.20	0.43	0.72	3.44	2.08	55.17
D-01	4.45	0.53	0.59	0.35	0.50	0.50	0.38	0.57	3.42	2.06	54.64
A-04	0.38	0.45	0.46	0.50	0.36	0.53	0.25	0.69	3.24	1.88	49.87
B-20	17.56	0.42	0.47	0.75	0.26	0.38	0.40	0.49	3.17	1.81	48.01
C-06	0.09	0.47	0.36	0.90	0.20	0.48	0.33	0.40	3.14	1.78	47.21
H-05	0.03	0.42	0.47	1.00	0.18	0.30	0.25	0.46	3.08	1.72	45.62
H-04	1.75	0.25	0.24	1.00	0.54	0.28	0.28	0.48	3.07	1.71	45.36
B-16	1.96	0.34	0.41	0.85	0.54	0.10	0.35	0.38	2.97	1.61	42.71
B-06	10.93	0.22	0.43	0.75	0.54	0.13	0.38	0.51	2.96	1.60	42.44
B-03	0.16	0.39	0.54	0.75	0.10	0.20	0.43	0.53	2.94	1.58	41.91
H-02	0.42	0.36	0.35	1.00	0.24	0.38	0.30	0.31	2.94	1.58	41.91
F-06	0.05	0.40	0.48	0.70	0.10	0.23	0.43	0.53	2.87	1.51	40.05
B-18	0.35	0.38	0.52	0.60	0.18	0.23	0.48	0.46	2.85	1.49	39.52
B-13	3.12	0.43	0.49	0.75	0.54	0.10	0.13	0.38	2.82	1.46	38.73
E-02	0.10	0.40	0.52	0.75	0.36	0.15	0.20	0.39	2.77	1.41	37.40
H-01	0.25	0.40	0.35	0.60	0.34	0.40	0.23	0.35	2.67	1.31	34.75
H-03	0.01	0.32	0.45	0.50	0.36	0.33	0.20	0.45	2.61	1.25	33.16
D-05	0.09	0.42	0.55	0.20	0.40	0.23	0.20	0.60	2.60	1.24	32.89
B-04	0.90	0.44	0.46	0.50	0.18	0.20	0.40	0.39	2.57	1.21	32.10
B-09	0.13	0.31	0.51	0.75	0.10	0.20	0.30	0.37	2.54	1.18	31.30
F-05	0.07	0.23	0.24	0.70	0.36	0.10	0.38	0.52	2.53	1.17	31.03
A-07	0.54	0.38	0.44	0.75	0.02	0.43	0.30	0.19	2.51	1.15	30.50
C-01	3.14	0.37	0.54	0.40	0.10	0.25	0.53	0.30	2.49	1.13	29.97

Social Values to be considered in Goal 5 ESEE Analysis

SITE	WETLAND ACREAGE	SOCIAL VALUES: URBAN QUALITY OF LIFE: EDUC. POTENT. *FV–4*	VIS./AES. QUAL. *FV–5*	URBAN SET. *FV–12a*	URB. WILD. HAB. *FV–12b*	URB. EDUC. OPPOR. *FV–12c*	VIS./ AES. QUAL. *FV–12d*	WATER–BASED REC. *FV–12e*	SOCIAL VALUES SUMMED SCORE	X ADJ	%
B–02	0.92	0.27	0.49	0.50	0.36	0.20	0.20	0.45	2.47	1.11	29.44
B–14	0.33	0.24	0.49	0.75	0.18	0.10	0.40	0.26	2.42	1.06	28.12
A–02	0.09	0.43	0.47	0.50	0.10	0.40	0.20	0.30	2.40	1.04	27.59
B–15	0.32	0.24	0.46	0.75	0.18	0.10	0.40	0.26	2.39	1.03	27.32
B–12	0.33	0.19	0.27	1.00	0.28	0.16	0.10	0.29	2.29	0.93	24.67
B–05	4.31	0.28	0.46	0.50	0.10	0.20	0.30	0.43	2.27	0.91	24.14
B–17	0.20	0.27	0.25	0.80	0.24	0.13	0.20	0.31	2.20	0.84	22.28
C–08	0.06	0.19	0.36	0.60	0.10	0.10	0.55	0.27	2.17	0.81	21.49
A–03	0.11	0.20	0.48	0.50	0.18	0.16	0.20	0.39	2.11	0.75	19.89
B–07	0.24	0.22	0.34	0.75	0.10	0.10	0.20	0.37	2.08	0.72	19.10
B–11	1.80	0.17	0.26	0.90	0.36	0.10	0.10	0.19	2.08	0.72	19.10
G–03	0.10	0.23	0.16	1.00	0.10	0.25	0.10	0.23	2.07	0.71	18.83
D–04	4.81	0.44	0.50	0.10	0.14	0.25	0.33	0.25	2.01	0.65	17.24
A–05	0.16	0.20	0.38	0.30	0.46	0.10	0.33	0.22	1.99	0.63	16.71
E–01	0.34	0.25	0.40	0.50	0.18	0.20	0.33	0.13	1.99	0.63	16.71
B–10	0.60	0.17	0.29	0.75	0.28	0.10	0.10	0.19	1.88	0.52	13.79
A–06	0.29	0.18	0.31	0.50	0.08	0.10	0.10	0.09	1.36	0.00	0.00
A–08	1.50	NOT ASSESSED									
B–08	0.22	NOT ASSESSED									
B–21	0.62	NOT ASSESSED									
E–03	0.10	NOT ASSESSED									
E–04	6.09	NOT ASSESSED									
F–07	0.59	NOT ASSESSED – PART OF PUD (SIGNIFICANT)									
F–08	0.64	NOT ASSESSED									

AVG.	2.45	0.41	0.42	0.63	0.34	0.31	0.37	0.45	2.99	1.63	43.20
MIN.	0.01	0.17	0.00	0.10	0.02	0.10	0.10	0.09	1.36	0.00	0.00
MAX.	18.42	0.89	0.80	1.00	0.80	0.80	1.00	0.86	5.13	3.77	100.00

APPENDIX C

KEY TO VEGETATION SPECIES ACRONYMS USED IN DRAFT DATA-BASE

Acronym	Latin Name	Common Name	USFW Region 9 Status
ACCI	*Acer circinatum*	Vine maple	FACU+
ACMA	*Acer macrophyllum*	Big-leaf maple	FACU
AGAL	*Agrostis alba*	Redtop	FACW
AGTE	*Agrostis tenuis*	Colonial bentgrass	FAC
ALRU	*Alnus rubra*	Red alder	FAC
ALGE	*Alopecurus geniculatus*	Meadow foxtail	FACW+
ALPR	*Alopecurus pratensis*	Meadow foxtail	FACW
ATFI	*Athyrium filix-femina*	Subarctic lady fern	FAC
BESY	*Beckmannia syzigachne*	American sloughgrass	OBL
BICE	*Bidens cernua*	Nodding beggar-ticks	FACW+
CAQU	*Camassia quamash*	Common camassia	FACW
CADE1	*Carex densa*	Dense sedge	OBL
CADE2	*Carex deweyana*	Short-scale sedge	FAC+
CAOB	*Carex obnupta*	Slough sedge	OBL
CASp	*Carex sp.*	Sedge	FACW
CAST	*Carex stipata*	Stalk-grain sedge	OBL
COST	*Cornus stolonifera*	Red-osier dogwood	FACW
COCO	*Corylus cornuta*	Beaked hazel-nut	NI
CRDO	*Crataegus douglasii*	Douglas' hawthorn	FAC
CRSp	*Crataegus sp.*	Hawthorn	UPL
CRMO	*Crataegus monogyna*	Ornamental hawthorn	FAC
ECCR	*Echinochloa crusgalli*	Barnyard grass	FACW
ELPA	*Eleocharis palustris*	Creeping spikerush	OBL
ELSp	*Eleocharis sp.*	Spikerush	OBL
EQAR	*Equisetum arvense*	Field horsetail	FAC
FEAR	*Festuca arundinacea*	Kentucky fescue	FACU-
FERU	*Festuca rubra*	Red fescue	FAC
FRLA	*Fraxinus latifolia*	Oregon ash	FACW
GEMA	*Geum macrophyllum*	Large-leaf avens	FACW+
GLSp	*Glyceria sp.*	Manna grass	OBL
HOLA	*Holcus lanatus*	Common velvet grass	FAC
IMCA	*Impatiens capensis*	Spotted touch-me-not	FACW
IRPS	*Iris pseudacorus*	Yellow iris	OBL
JUEF	*Juncus effusus*	Soft rush	FACW+
LEMI	*Lemna minor*	Lesser duckweed	OBL
LOIN	*Lonicera involucrata*	Four-line honeysuckle	FAC
LOCO	*Lotus corniculatus*	Birds-foot trefoil	FAC
LYAM	*Lysichitum americanum*	Yellow skunk-cabbage	OBL

KEY TO VEGETATION SPECIES ACRONYMS USED IN DRAFT DATA-BASE
(continued)

Acronym	Latin Name	Common Name	USFW Region 9 Status
LYSA	*Lythrum salicaria*	Purple loosestrife	OBL
OESA	*Oenanthe sarmentosa*	Water-parsley	OBL
PHAR	*Phalaris arundinacea*	Reed canary grass	FACW
POTR2	*Poa trivialis*	Rough bluegrass	FACW-
POSp	*Polygonum sp.*	Knotweed	FAC
POMU	*Polystichum munitum*	Sword fern	UPL
POTR1	*Populus trichocarpa*	Balsam poplar	FAC
PSME	*Pseudotsuga menziesii*	Douglas fir	UPL
RARE	*Ranunculus repens*	Creeping butter-cup	FACW
RHPU	*Rhamnus purshiana*	Cascara buckthorn	NI
ROSp	*Rosa sp.*	Rose	NI
RUDI	*Rubus discolor*	Himalayan blackberry	FACU-
RUSP	*Rubus spectabilis*	Salmonberry	FAC
SALA	*Salix lasiandra*	Pacific willow	FACW+
SASp	*Salix sp.*	Willow	FAC
SARA	*Sambucus racemosa*	European red elder	FACU
SCMI	*Scirpus microcarpus*	Small-fruit bulrush	OBL
SPDO	*Spiraea douglasii*	Douglas' spiraea	FACW
THPL	*Thuja plicata*	Western red cedar	FAC
TYLA	*Typha latifolia*	Broad-leaf cattail	OBL
URDI	*Urtica dioica*	Stinging nettle	FAC+
VEAM	*Veronica americana*	American speedwell	OBL

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A01
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 2
Tax Lots C900,C800,C1001,C1102,C1200,C1300,CD1200,CD600
Plan Designation Code LDR,RP
Adjoining Plan Designation Code LDR,RP
Resource Protection? (Y/N) Y
Location Description or Address
NORTH CLACKAMAS SCHOOL DISTRICT (SUNRISE) - BLAINE, BETWEEN 122ND AND 132ND, SOUTH OF ASHLEY

Property Owner Name(s)
NORTH CLACKAMAS SCHOOLS; ROGER BLAIN; MAURICE LARSEN; WALTER TSCHVOY

Wetland Acreage 4.97
Wetland Type PFO
Dominant Plant Community
FRLA,CAOB,LOIN,JUEF

Plant Community Comments
FOREST WETLAND DOMINATED BY FRLA, WITH MODERATELY DENSE UNDERSTORY OF LOIN, CAOB, JUEF

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C); POWELL SILT LOAM, 0-8% SLOPES (70B)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
OF SIGNIFICANT VALUE DUE TO HIGH STRUCTURAL DIVERSITY, RELATIVELY LARGE SIZE, PRESENCE OF SURFACE WATER MOST OF YEAR, GOOD EDGE HABITAT (FOREST BORDERING ON OPEN FIELDS AND SCRUBLAND).

Associated Waterway Name N/A
Mitigation Opportunities
SOME LIMITED OPP. IN EXTREME SE CORNER ON SCHOOL DISTRICT PROPERTY ADJACENT TO EXISTING POND: BOTH NORTH AND SOUTH OF POND (APPROX. 1.0 AC) BOTH CREATION AND ENHANCEMENT POSSIBLE.

Property Access Approved? (Y/N) Y
Field Investigation Date 3/29-30, 7/19-20/93
Field Investigators RAJ,DRS
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
THIS WETLAND ACTUALLY SURVEYED BY CLACKAMAS CO. - PORTIONS OF WETLAND ON BLAINE PROPERTY ON N. WAS DELINEATED AND SURVEYED BY CAMPBELL-CRAVEN.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A02
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 2
Tax Lots CD1100,CD1101,DC601,DC602,DC600,DC401,DC402
Plan Designation Code LDR,RP
Adjoining Plan Designation Code LDR,RP
Resource Protection? (Y/N) Y
Location Description or Address
INTERMITTENT STREAM CHANNEL AND FRINGE WETLAND WEST AND EAST OF 132ND AVE. - TRIBUTARY TO SIEBEN CREEK

Property Owner Name(s)
LYDIA HUBBARD, DAN HUNKER

Wetland Acreage 0.09
Wetland Type PEM,FO
Dominant Plant Community
AGTE,FEAR,RARE,VEAM,POTR1,FRLA,RUDI

Plant Community Comments
N/A

Soil Type
CASCADE SILT LOAM, 15-30% SLOPES (13D); DELENA SILT LOAM, 3-12% SLOPES (30B)

Drainage Basin SIEBEN CREEK
Wetland Functional Value
RELATIVELY LOW SIGNIFICANCE DUE TO SMALL SIZE AND LACK OF SPECIES DIVERSITY. DIVERSITY IS HIGHER WEST OF 132ND (TREE OVERSTORY). INTERMITTENT FLOW JUST BELOW HEADWATERS.

Associated Waterway Name N/A
Mitigation Opportunities
SEEMS TO BE SOME LIMITED OPPORTUNITY ADJACENT TO EAST SIDE OF 132ND TO SOUTH OF CHANNEL. NEEDS HYDROLOGY ASSESSED.

Property Access Approved? (Y/N) Y
Field Investigation Date 11/18/92
Field Investigators RAJ,FES
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
ASSOC. WITH INT. CHANNEL (MEAN = 4' WIDE) DEEPLY INCISED FURTHER EAST AS TERRAIN STEEPENS, SHELVES DISAPPEAR.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A03
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 2
Tax Lots D700
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
POND AND CHANNEL JUST WEST OF 139TH AVE., SOUTH OF SUNNYSIDE RD.

Property Owner Name(s)

Wetland Acreage 0.11
Wetland Type POW
Dominant Plant Community
JUEF,FEAR,RARE,ACMA,SCMI,POTR

Plant Community Comments
SMALL COMMUNITY OF JUEF, RARE, SCMI ALONG POND EDGE ONLY. POTR AND ACMA IN ROW ADJACENT TO POND.

Soil Type
CASCADE SILT LOAM, 8-15% SLOPES (13C)

Drainage Basin SIEBEN CREEK
Wetland Functional Value
RELATIVELY LOW SIGNIFICANCE DUE TO SMALL SIZE, LACK OF ASSOCIATED WETLAND PLANTS. PARTIAL IMPOUNDMENT OF INTERMITTENT STREAM PROVIDES SOME FLOOD CONTROL.

Associated Waterway Name N/A
Mitigation Opportunities
VERY LIMITED

Property Access Approved? (Y/N) N
Field Investigation Date 11/18/92
Field Investigators FES
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1"=400'
Comments
INT. STREAM CHANNEL (MEAN = 1' WIDE) BOTH ABOVE AND BELOW POND - DEEPLY INCISED. POND IS APPROXIMATELY 40'x 70' WITH STEEP BANKS, OBVIOUSLY EXCAVATED. WETLAND EDGE IS LIMITED TO IMMEDIATE POND EDGE; CONSEQUENTLY, ONLY UPLAND SAMPLE SITE RECORDED.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

'etland Code Label A04
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 1
Tax Lots 800,700
Plan Designation Code LDR,RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
PERENNIAL CHANNEL BETWEEN 152ND AND 142ND S. OF SUNNYSIDE (WETLAND DELINEATION PERFORMED FOR NORTH CLACKAMAS SCHOOLS)

Property Owner Name(s)
RICHARD HAMMOND, JAMES BILLETES, ANTOINETTE LEHMAN, GREAT AMERICAN DEVELOPMENT, MICHAEL FOX

Wetland Acreage 0.38
Wetland Type PFO
Dominant Plant Community
ALRU,FRLA,PSMI,ACCI,COCO,POMU,RARE

Plant Community Comments
ALRU AND FRLA RIPARIAN STRIP; MATURE PSME STAND ON ADJACENT UPLAND, WITH ACCI, COCO, POMU, RARE UNDERSTORY

Soil Type
CASCADE SILT LOAM, 15-30% SLOPES (13D); DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin SIEBEN CREEK
Wetland Functional Value
RELATIVELY HIGH SIGNIFICANCE (AS RIPARIAN AREA) DUE TO HIGH STRUCTURAL DIVERSITY, QUALITY HABITAT, PERENNIAL WATER SOURCE. HOWEVER, LIMITED BY SMALL SIZE OF WETLAND SHELVES.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) Y
Field Investigation Date
Field Investigators JVS,DRS,FES
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
STREAM CHANNEL (MEAN = 4' WIDE) - BRANCH OF SIEBEN CREEK. RIPARIAN AND UPLAND FOREST WITH LOWLYING WETLAND BENCHES ADJACENT TO CREEK. ISOLATED SEEP-FED WETLAND (VERY SMALL) UPSLOPE ON SOUTH SIDE OF CHANNEL.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A05
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 1
Tax Lots 2190
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
ADJACENT TO NE CORNER OF 90 DEGREE SECTION CORNER IN 152ND AVE., SOUTH OF SUNNYSIDE ROAD

Property Owner Name(s)
DOUG BOLLAM

Wetland Acreage 0.16
Wetland Type PFO
Dominant Plant Community
FRLA,CADE2,RARE,SPDO

Plant Community Comments
FOREST-SCRUB/SHRUB COMMUNITY DOMINATED BY FRLA, SPDO, CADE2, RARE

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin ROCK CREEK
Wetland Functional Value
RELATIVELY LOW SIGNIFICANCE DUE TO SMALL SIZE AND LACK OF OPEN WATER, DESPITE HIGHER HABITAT VALUE OF SCRUB/SHRUB COMMUNITY.

Associated Waterway Name N/A
Mitigation Opportunities
PROBABLY HAS SOME POTENTIAL, BUT HYDROLOGY LIKELY IS LIMITING FACTOR.

Property Access Approved? (Y/N) Y
Field Investigation Date 3/29-30, 5/5, 8/93
Field Investigators RAJ,DRS
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
WETLAND BOUNDARY STAKED AND FLAGGED AT LANDOWNER REQUEST. BOUNDARY DEFINED TOPOGRAPHICALLY ON SOUTH AND EAST; BY ROADWAY ON NORTH AND WEST.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A06
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 12
Tax Lots B100,B200
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
DEPRESSION IN OPEN FIELD AT BEND (90 DEGREES) IN 152ND AVE.

Property Owner Name(s)

Wetland Acreage 0.29
Wetland Type PEM
Dominant Plant Community
JUEF,ALPR,FEAR,AGTE

Plant Community Comments
WET MEADOW WITH JUEF, ALPR, FEAR, AGTE

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin ROCK CREEK
Wetland Functional Value
RELATIVELY LOW SIGNIFICANCE DUE TO SMALL SIZE, LACK OF STRUCTURAL DIVERSITY.

Associated Waterway Name N/A
Mitigation Opportunities
POSSIBLE TO ENHANCE, BUT LARGER CREATION ACREAGE NOT FEASIBLE

Property Access Approved? (Y/N) N
Field Investigation Date 3/30/93
Field Investigators RAJ,DRS
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
LOW GRADIENT, MOWED, GRASS DOMINATED SWALE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A07
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 11
Tax Lots B403,B404,B405,B402
Plan Designation Code LDR
Adjoining Plan Designation Code LDR,MDR
Resource Protection? (Y/N) N
Location Description or Address
EAST OF SE 122ND AVE., OPPOSITE ROYAL VIEW DR.

Property Owner Name(s)
DALE SCHREDER, NORTH CLACKAMAS SCHOOL #12

Wetland Acreage 0.54
Wetland Type PEM,FO
Dominant Plant Community
ALPR,FEAR,FRLA,RUDI

Plant Community Comments
N/A

Soil Type
BORGES SILTY CLAY LOAM, 0-8% SLOPES (7B)

Drainage Basin COW CREEK
Wetland Functional Value
ADJACENT NURSERY ACTIVITY AND SEASONAL MOWING OF >90% OF SITE REDUCE AND/OR ELIMINATE SIGNIFICANT PERFORMANCE OF FUNCTIONS. LOW STRUCTURAL DIVERSITY.

Associated Waterway Name N/A
Mitigation Opportunities
SOME OPPORTUNITY (1.0 AC), IF DOWNSTREAM PROTECTION TO EXISTING DEVELOPED AREA WAS PROVIDED.

Property Access Approved? (Y/N) Y
Field Investigation Date 3/29/93
Field Investigators RAJ,DRS
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
SCOLES & ASSOCIATES CONDUCTED DELINEATION OF MAIN PORTION OF WETLAND. WE CONCUR WITH OBSERVED BOUNDARY FLAGGING AND 16 DATA POINTS INCLUDED IN REPORT. ACREAGE INCLUDES APPROX. WETLAND AREA. PARTIAL ACCESS (TO EXTREME S. END ONLY).

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label A08
Wetland Map Number A
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 11
Tax Lots D100,D800,D801,D900,D901,D1000,D1100,D9,A100,A200,A600,A601,A602,A60
Plan Designation Code LDR,RP
Adjoining Plan Designation Code
Resource Protection? (Y/N) Y
Location Description or Address
SIEBEN CREEK DRAINAGE WEST OF SE 142ND AVE. APPROXIMATELY OPPOSITE INTERSECTION WITH CHARJAN ST.

Property Owner Name(s)

Wetland Acreage 1.50
Wetland Type PFO
Dominant Plant Community
ACMA,ALRU,PSME

Plant Community Comments
RIPARIAN TO UPLAND FORESTED OVERSTORY

Soil Type
CASCADE SILT LOAM, 15-30% SLOPES (13D), XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP (92F)

Drainage Basin SIEBEN CREEK
Wetland Functional Value
FUNCTIONAL VALUES NOT ASSESSED

Associated Waterway Name N/A
Mitigation Opportunities
NONE: HIGH QUALITY HABITAT AND LACK OF ACCESS PRECLUDE ANY MITIGATION OPPORTUNITIES.

Property Access Approved? (Y/N) N
Field Investigation Date 11/18/92
Field Investigators FES,RAJ
Source Aerial Photo No. CIR **Date** 6/91 **Scale** 1" = 400'
Comments
STREAM WAS SURVEYED BY LEE ENGINEERING FOR THE SIEBEN LANE INTERCEPTOR SEWER PROJECT (CLACK. CR. SERVICE DIST. #1). WETLAND AREAS ARE PRIMARILY SHELVES ASSOCIATED WITH THE MAIN CHANNEL AND TRIBUTARIES, AND ISOLATED AREAS SUBJECT TO UPSLOPE SEEPAGE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B01
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 12
Tax Lots D1200,D1100
Plan Designation Code SHDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
EAST OF HWY 22, AND SE OF ROCK CREEK CORNER

Property Owner Name(s)
HABERLACH

Wetland Acreage 1.81
Wetland Type POW,PEM
Dominant Plant Community
AGTE,ALGE,RARE

Plant Community Comments

Soil Type
OPEN WATER

Drainage Basin ROCK CREEK
Wetland Functional Value
LARGE POND RECEIVING FLOW FROM PERENNIAL CREEK OFFERS EXCELLENT OPPORTUNITY FOR WATERFOWL USE YEAR-ROUND. ADJACENT HABITAT (UPLAND) LACKS SIGNIFICANT VALUE, HOWEVER, AS IT HAS BEEN USED FOR LIVESTOCK GRAZING.

Associated Waterway Name UNNAMED TRIBUTARY TO ROCK CREEK
Mitigation Opportunities
SUBDIVISION PLATTED. IN THE ABSENCE OF HOMES, DOWNSTREAM SWALE FROM DAM HAS EXCELLENT OPP. FOR RESTORATION/CREATION OF ~2.0 ACRES. POND FRINGES DEGRADED BY GRAZING = ADDITIONAL OPP.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators RAJ
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
POTENTIAL RESIDENTIAL DEVELOPMENT AT THIS SITE ANTICIPATES PRESERVATION OF POND (ABANDONED LOG POND).

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B02
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 12
Tax Lots B3800,B3700
Plan Designation Code LI
Adjoining Plan Designation Code MDR
Resource Protection? (Y/N) N
Location Description or Address
WEST OF 152ND AND IMMEDIATELY NORTH OF HWY 212; DEPRESSIONAL AREAS WITH SMALL POND

Property Owner Name(s)

Wetland Acreage 0.92
Wetland Type PSS
Dominant Plant Community
SALA,CRDO,ALPR,CASp

Plant Community Comments
CRDO OVERSTORY

Soil Type
HUBERLY SILT LOAM, 0-3% SLOPES (41)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
MEDIUM VALUE AS WILDLIFE HABITAT DUE TO STRUCTURAL DIVERSITY AND SMALL POND. LIMITED BY DISTURBANCE FROM HWY 212 AND NEARBY DEVELOPMENT.

Associated Waterway Name N/A
Mitigation Opportunities
LIMITED

Property Access Approved? (Y/N) Y
Field Investigation Date 5/6/93
Field Investigators RAJ
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SITE APPEARS TO BE RECOVERING FROM PAST DISTURBANCE (HWY 224, UTILITY LINE PLACEMENT). PORTION OF SITE IS AN ABANDONED PASTURE/RESIDENCE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B03
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 12
Tax Lots B3601
Plan Designation Code LI
Adjoining Plan Designation Code MDR
Resource Protection? (Y/N) N
Location Description or Address
1ST UNNAMED ROAD WEST OF 152ND JUST NORTH OF HWY 212 - SEEP ON GENTLE SLOPE ADJACENT (WEST OF) TRAILER COURT

Property Owner Name(s)
JOSEPH VANHAVERBEREL(?)

Wetland Acreage 0.16
Wetland Type PEM
Dominant Plant Community
JUEF,CAST,SCMI,ALPR,POTR1

Plant Community Comments
WET MEADOW COMMUNITY DOMINATED BY JUEF, CAST, SCMI, ALPR AND BORDERED BY YOUNG POTR1 PATCH ALONG WEST EDGE.

Soil Type
HUBERLY SILT LOAM, 0-3% SLOPES (41)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
OF MODERATELY LOW SIGNIFICANCE DUE TO SMALL SIZE, LACK OF STRUCTURAL DIVERSITY WITHIN WETLAND AND LACK OF YEAR-ROUND SURFACE WATER. HOWEVER, HABITAT VALUE IS SOMEWHAT ENHANCED BY ADJACENT STAND OF POTR1 SAPLINGS.

Associated Waterway Name N/A
Mitigation Opportunities
LIMITED; SMALL AREA

Property Access Approved? (Y/N) Y
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WETLAND IS SUBJECT TO SURFACE RUNOFF AND UPSLOPE SEEPAGE FROM SLOPE NORTH OF SITE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B04
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 12
Tax Lots B3601,B3600,B3500
Plan Designation Code LI
Adjoining Plan Designation Code MDR
Resource Protection? (Y/N) N
Location Description or Address
N. OF 212, ACCESSED FROM WEST END OF STREET PASSING JUST SOUTH OF MOBILE HOME W. OF 152ND AVE.

Property Owner Name(s)

Wetland Acreage 0.90
Wetland Type PEM
Dominant Plant Community
JUEF,ALPR,ELPA

Plant Community Comments
EMERGENT WET MEADOW DOMINATED BY JUEF, ALPR, ELPA, AND OTHERS

Soil Type
HUBERLY SILT LOAM, 0-3% SLOPES (41)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
MODERATE SIGNIFICANCE DUE TO SIZE, THOUGH STRUCTURAL DIVERSITY IS LOW AND SITE LACKS PERENNIAL SURFACE WATER.

Associated Waterway Name N/A
Mitigation Opportunities
GOOD; RELATIVELY LARGE AREA OF SEEPAGE, SOME FILL AT SOUTHERN END THAT COULD BE REMOVED. AREA MIGHT BE ENHANCED BY EXCAVATION FOR OPEN WATER AREAS, ALSO PLANTED WITH TREES AND SHRUBS FOR STRUCTURAL DIVERSITY.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
LARGE OPEN WET MEADOW, RECEIVES SEEPAGE FROM FORESTED SLOPE TO THE NORTH. SMALL AREAS OF PONDING EVIDENT DURING RAINY PERIODS.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B05
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 11
Tax Lots A700
Plan Designation Code LI
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
PROPERTY EXTENDS TO NORTHWEST OF CORNER OF SE 142ND AND HWY 212

Property Owner Name(s)

Wetland Acreage 4.31
Wetland Type PEM
Dominant Plant Community
ALPR

Plant Community Comments
WET MEADOW DOMINATED BY ALPR

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
SITE HAS MODERATE VALUE DUE TO LARGE SIZE, THOUGH IS LIMITED BY LACK OF STRUCTURAL DIVERSITY AND PERENNIAL WATER SOURCES.

Associated Waterway Name N/A
Mitigation Opportunities
MAY BE FAIRLY GOOD OPPORTUNITIES FOR ENHANCEMENT, SOME CREATION. LARGE, OPEN AREA WITH FILL ALONG SOUTHERN EDGE <<EXCEPT SOILS AND HYDROLOGY MAY NOT BE APPROPRIATE (OFF-SITE ONLY)

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
CHANNEL WITH INTERMITTENT STREAM FLOW PASSES FROM NORTH TO SOUTH ALONG THE WESTERN BOUNDARY OF THE SITE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B06
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 11
Tax Lots A1300,A700
Plan Designation Code LI
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
PROPERTY IMMEDIATELY WEST OF B5 SITE

Property Owner Name(s)

Wetland Acreage 10.93
Wetland Type PEM,OW
Dominant Plant Community
SASp,PHAR,JUEF,FRLA,TYLA,ALPR Cottonwood dominant tree species (DSL site visit 6/9/94)

Plant Community Comments
SCRUB/SHRUB AND EMERGENT MOSAIC OF SASp, PHAR, JUEF, FRLA, TYLA, ALPR

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
MODERATELY HIGH SIGNIFICANCE DUE TO LARGE SIZE, STRUCTURAL DIVERSITY, SEASONAL OPEN WATER AREAS. MAY BE LIMITED BY AREAS OF PAST DISTURBANCE/FILL.

Associated Waterway Name N/A
Mitigation Opportunities
MAYBE GOOD - LOOKS DISTURBED, MAY HAVE AREAS OF FILL AS WELL AS WETLAND

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SITE HAS BEEN CLEARED, IS REVEGETATING IN MIX OF SCRUB/SHRUB AND HERBACEOUS SPP., INDETERMINATE AMOUNT OF PERENNIAL WATER AVAILABLE.

6/94
owner hired Martin Schott to do delineation. walked site. Excellent veg. diversity; very wet in places. Wonderful potential -

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B07
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 11
Tax Lots A1200
Plan Designation Code LI
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
EAST OF HUBBARD RD. AND HWY 212 - ADJACENT TO INDUSTRIAL ACCESS ROAD

Property Owner Name(s)

Wetland Acreage 0.24
Wetland Type PEM
Dominant Plant Community
ALPR

Plant Community Comments
ALPR DOMINATED MEADOW

Soil Type
HUBERLY SILT LOAM, 0-3% SLOPES (41)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
MODERATELY LOW SIGNIFICANCE DUE TO SMALL SIZE, LACK OF STRUCTURAL DIVERSITY, MARGINAL HYDROLOGY.

Associated Waterway Name N/A
Mitigation Opportunities
LIMITED POTENTIAL DUE TO UNKNOWN HYDROLOGY; MAY NOT BE POSSIBLE TO ENLARGE OR ENHANCE SIGNIFICANTLY.

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SMALL AREA OF PASTURE RECEIVES SEEPAGE/RUNOFF FROM UPSLOPE (NORTH) SUFFICIENT TO SUPPORT WHAT MAY BE A HYDROPHYTIC COMMUNITY (ALPR). WITHOUT SITE ACCESS, PRESENCE OF HYDRIC SOILS AND WETLAND HYDROLOGY COULD NOT BE VERIFIED.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B08
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 13
Tax Lots A400
Plan Designation Code MDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
SEWAGE PONDS ABOVE CLACKAMAS RIVER FLOODPLAIN, DOWNSLOPE TO WEST OF TRAILER COURT NEXT TO GRAVEL PIT (HWY 224)

Property Owner Name(s)

Wetland Acreage 0.22
Wetland Type PFO
Dominant Plant Community
POTR1,PSME,LEMI

Plant Community Comments
RIPARIAN TO UPLAND FOREST - DOMINATED BY POTR1 AND PSME WITH TYPICAL MIXED UNDERSTORY. PONDS COVERED BY LEMI

Soil Type
XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
NOT FORMALLY ASSESSED. SITE HAS MARGINAL VALUE AS WETLAND DUE TO ABRUPT TRANSITION FROM AQUATIC (POND) TO UPLAND. WATER QUALITY FEATURES ARE LARGELY INCIDENTAL DUE TO SMALL SIZE AND CONTROLLED INPUT.

Associated Waterway Name N/A
Mitigation Opportunities
NONE - WETLAND MINIMAL AND ONLY ASSOCIATED WITH TWO TREATMENT PONDS

Property Access Approved? (Y/N) Y
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
CONTROLLED FLOWS FOR SEWAGE TREATMENT; DOES NOT SUPPORT A SIGNIFICANT HYDROPHYTIC COMMUNITY DUE TO STEEP SIDES OF EXCAVATED PONDS. DEPTH OF PONDS UNKNOWN; CONCEALED BY DUCKWEED.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B09
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 14
Tax Lots B600
Plan Designation Code LI
Adjoining Plan Designation Code GI
Resource Protection? (Y/N) N
Location Description or Address
ON CAPPS RD. OPPOSITE WILDE RD. - SMALL GRASSY SWALE EXTENDING TO NE AWAY FROM ROAD

Property Owner Name(s)

Wetland Acreage 0.13
Wetland Type PEM
Dominant Plant Community
ALPR,QUGA

Plant Community Comments
ALPR DOMINATED SWALE; QUGA WOODLAND

Soil Type
CLACKAMAS GRAVELLY LOAM, 0-3% SLOPES (18)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
MARGINAL DUE TO SMALL SIZE, LACK OF DIVERSITY WITHIN SWALE, AND LACK OF RELIABLE WATER SUPPLY. VALUE INCREASED SOMEWHAT BY ADJACENT OAK TREES, WHICH ADD HABITAT DIVERSITY.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SHALLOW SWALE BETWEEN WIDELY SPACED OAK TREES

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B10
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 9
Tax Lots A900,AC200
Plan Designation Code GI
Adjoining Plan Designation Code LI
Resource Protection? (Y/N) N
Location Description or Address
DITCH/SWALE BORDERING ROAD NEAR SE 98TH AVE. AND MATHER RD.

Property Owner Name(s)

Wetland Acreage 0.60
Wetland Type PSS
Dominant Plant Community
SASp,RUDI

Plant Community Comments
SCRUB/SHRUB DOMINATED - SALIX SPP., RUDI, ETC.

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
OF MODERATE VALUE DUE TO ITS POTENTIAL AS HABITAT FOR CERTAIN SPECIES (NESTING, FORAGING, COVER, OPEN WATER), THOUGH THIS IS OFFSET SOMEWHAT BY DEVELOPED SURROUNDINGS.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
LARGE INCISED DITCH WITH FLOWING WATER IS LARGELY CONCEALED BY WILLOWS AND HIMALAYAN BLACKBERRY. ADJACENT LOWLYING GROUND UNDER SHRUB COVER MAY HAVE ADDITIONAL SURFACE WATER OR SATURATED SOILS; INDETERMINATE FROM OFF-SITE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B11
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 9
Tax Lots DB301,DB302,DB200,DA1701
Plan Designation Code LI
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
SOUTH OF CLACKAMAS RD. AND 98TH AVE. - LARGE LOT ADJOINING RR TRACKS

Property Owner Name(s)

Wetland Acreage 1.80
Wetland Type PSS
Dominant Plant Community
SASp

Plant Community Comments
SALIX SCRUB/SHRUB COMMUNITY, OTHERWISE WEEDY

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
VERY LOW (DESPITE SIZE) DUE TO DISTURBANCE, PROBABLE TOXICS, UNCERTAIN HYDROLOGY.

Associated Waterway Name N/A
Mitigation Opportunities
POOR, SINCE HYDROLOGY MAY BE LARGELY PERCHED ON COMPACTED SOILS. IN ADDITION, ANY MATERIALS REMOVED MAY INCLUDE GARBAGE, TOXICS, CONCRETE, ETC. MAKING SITE A MARGINAL CONDIDATE FOR CREATION/ENHANCEMENT DUE TO HIGH COSTS AND ENVIRONMENTAL RISKS.

Property Access Approved? (Y/N) N
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
THIS AREA IS LARGELY COMPOSED OF FILL MATERIALS, GRAVEL, COMPACTED SOILS. PREVIOUS OCCUPANCY BY INDUSTRIAL/COMMERCIAL ENTERPRISE LIKELY. DRAINAGE DITCHES AND DEPRESSIONAL AREAS SCATTERED ABOUT SITE SUPPORT A MOSAIC OF SALIX/RUDI DOMINATED THICKETS.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B12
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 9
Tax Lots DB1403,DB1600
Plan Designation Code GC
Adjoining Plan Designation Code LI
Resource Protection? (Y/N) N
Location Description or Address
NW CORNER AT INTERSECTION OF HWY 212 AND RR TRACKS (BELOW OVERPASS); DEPRESSION WITH PONDING AND ASSOCIATED WETLAND PLANTS

Property Owner Name(s)

Wetland Acreage 0.33
Wetland Type PSS,PEM
Dominant Plant Community
SASp,TYLA,JUEF

Plant Community Comments
SALIX SCRUB/SHRUB SOME EMERGENT GROWTH (TYLA,JUEF, ETC.) ALONG POND EDGE

Soil Type
0CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
MODERATE VALUE DUE TO OPEN WATER, ADJACENT TREE/SHRUB OVERSTORY THAT PROVIDES NESTING/FORAGING COVER. SOMEWHAT OFFSET BY PROXIMITY TO RAILROAD ACTIVITIES.

Associated Waterway Name N/A
Mitigation Opportunities
POND AND ASSOCIATED COMMUNITY NOT EASILY IMPROVED - COULD BE EXPANDED MARGINALLY INTO ADJACENT FILL SLOPE (NOT MUCH GAIN)

Property Access Approved? (Y/N) Y
Field Investigation Date 5/6/93
Field Investigators RAJ,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SITE HAS SUFFICIENT STRUCTURAL DIVERSITY AND WATER TO ATTRACT A VARIETY OF WILDLIFE SPP., THOUGH ACCESS MAY BE HAZARDOUD FOR SOME SPP. DUE TO TRAIN TRAFFIC.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B13
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 9,10
Tax Lots A900,690,700
Plan Designation Code GI
Adjoining Plan Designation Code LI,RP,MH,M
Resource Protection? (Y/N) N
Location Description or Address
NORTH CENTRAL AREA OF CAMP WITHYCOMBE

Property Owner Name(s)
NATIONAL GUARD

Wetland Acreage 3.12
Wetland Type PEM
Dominant Plant Community
JUEF,ECCR,BESY,CAOB,PHAR,FRLA

Plant Community Comments
EMERGENT AND GRASS: JUEF, ECCR, BESY, CAOB, PHAR, SMALL # OF FRLA SAPLINGS.

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17), COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin COW CREEK
Wetland Functional Value
THIS WETLAND HAS A GOOD DIVERSITY OF EMERGENT SPECIES. IT IS LOCATED AT THE BASE OF MT. TALBERT WHICH HAS AN INTACT MATURE FOREST COMMUNITY. WATER AVAILABILITY IS INTERMITTENT. GOOD COVER FOR WILDLIFE IS AVAILABLE TO THE NORTH OF THE WETLAND.

Associated Waterway Name N/A
Mitigation Opportunities
AN INTERMITTENT STREAM CARRYING RUNOFF FROM MT. TALBERT SUPPLIES WATER TO THIS AREA. THIS WATER SOURCE COULD BE USED TO SUPPLY MITIGATION HYDROLOGY. A GOOD DIVERSITY OF EMERGENT VEGETATION IS ALREADY PRESENT.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/16/93
Field Investigators FES,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
POTENTIAL FILL VIOLATIONS IN THIS AREA. WETLAND COULD BE ENHANCED BY THE PLANTING OF SHRUB SPECIES AND ALLOWING THE ASH SAPLINGS TO MATURE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B14
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 9
Tax Lots A900
Plan Designation Code GI
Adjoining Plan Designation Code LI,RP,LDR
Resource Protection? (Y/N) N
Location Description or Address
CAMP WITHYCOMBE - NW CORNER

Property Owner Name(s)
NATIONAL GUARD

Wetland Acreage 0.33
Wetland Type PEM
Dominant Plant Community
PHAR,LOCO,CADE1,AGAL,FRLA

Plant Community Comments
EMERGENT/GRASS: PHAR, LOCO, CADE1, AGAL. SMALL # OF FRLA SEEDLINGS.

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin CLACKAMAS RIVER DIRECT
Wetland Functional Value
VERY LOW VALUE DUE TO SMALL SIZE, LACK OF STRUCTURAL DIVERSITY. PERFORMS SOME SEDIMENT TRAPPING.

Associated Waterway Name N/A
Mitigation Opportunities
THIS IS A POTENTIAL FILL VIOLATION AREA. DEPRESSIONAL AREAS IN THIS VICINITY TEND TO BECOME PONDED WITH SURFACE WATER RUNOFF. PHALARIS IS QUITE WELL ESTABLISHED IN THIS AREA SO IT WOULD PROBABLY NEED TO BE KNOCKED BACK.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/16/93
Field Investigators FES,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
LOCATED SOUTH OF DIRT ACCESS ROAD. WETLAND IS A SMALL LINEAR SWALE. 95% OF VEGETATION IS PHAR. SEASONALLY FLUSHED. SURROUNDING AREA IS A REGULARLY MOWED SPORTS FIELD.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B15
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 9
Tax Lots A900
Plan Designation Code GI
Adjoining Plan Designation Code LI,RP,LDR
Resource Protection? (Y/N) N
Location Description or Address
CAMP WITHYCOMBE - NW CORNER

Property Owner Name(s)
NATIONAL GUARD

Wetland Acreage 0.32
Wetland Type PEM
Dominant Plant Community
PHAR,LOCO,CADE1,POSp,ECCR,FRLA

Plant Community Comments
EMERGENT/GRASS. PHAR, LOCO, CADE1, POSp, ECCR, NUMBER OF FRLA SEEDLINGS.

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
LOW VALUE WETLAND DUE TO SMALL SIZE, HIGH LEVEL OF DISTURBANCE, LOW STRUCTURAL DIVERSITY.

Associated Waterway Name N/A
Mitigation Opportunities
THIS IS A POTENTIAL FILL VIOLATION AREA. DEPRESSIONAL AREAS IN THIS VICINITY TEND TO BECOME PONDED WITH SURFACE WATER RUNOFF. PHALARIS IS QUITE WELL ESTABLISHED IN THIS AREA SO IT WOULD PROBABLY NEED TO BE KNOCKED BACK.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/16/93
Field Investigators FES,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
MODERATE SPECIES DIVERSITY. SEASONALLY PONDED. HIGHLY DISTURBED BY HEAVY TRAFFIC (TANKS?). ADJACENT TO A DIRT ACCESS ROAD. AREAS IMMEDIATELY ADJACENT ARE REGULARLY MOWED. IF LEFT ALONE, FRLA WOULD EVENTUALLY DOMINATE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B16
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 9,16
Tax Lots DC500,DC804,DC801,DC800,DC803,A1600,A1700,A1800
Plan Designation Code GC,OC,HDR
Adjoining Plan Designation Code LI,HDR,GI,
Resource Protection? (Y/N) N
Location Description or Address
BETWEEN SE 82ND DR AND RAILROAD FROM APPROX. SE LAST RD TO SE MANGAN DR.

Property Owner Name(s)

Wetland Acreage 1.96
Wetland Type PEM,SS,FO
Dominant Plant Community
SCMI,SASp,COST,FRLA

Plant Community Comments
MIXED EMERGENT/SCRUB-SHRUB/FORESTED. APPROX 1/3 EACH VEG TYPE. EMERGENT AREAS DOMINATED BY SCMI; SCRUB/SHRUB DOMINATED BY SASp, COST; FORESTED AREA DOMINATED BY FRLA.

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
GOOD INTERSPERSION OF COMMUNITY TYPES. ALTHOUGH THE WETLAND HAS ADJACENT ROADWAYS AND COMMERCIAL DEVELOPMENT, HUMAN ACCESS IS VERY LIMITED DUE TO DENSE VEGETATION AND STEEP SLOPES. WETLAND APPEARS TO HAVE PERENNIAL WATER AVAILABLE.

Associated Waterway Name N/A
Mitigation Opportunities
A POND HAS ALREADY BEEN CONSTRUCTED IN THE SOUTHERN REACH. GOOD DIVERSITY OF SPECIES AND STRUCTURAL DIVERSITY. SEEMS TO BE A LARGE AMOUNT OF RUNOFF FROM UPSLOPE IMPERVIOUS SURFACES.

Property Access Approved? (Y/N) N
Field Investigation Date 7/16/93
Field Investigators FES,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
ACREAGE CALCULATION IS LESS PRECISE SINCE PROPERTY ACCESS WAS NOT APPROVED.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B18
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 16
Tax Lots BD100,BD200,BD400,BD300,BD2600
Plan Designation Code OC,LDR
Adjoining Plan Designation Code GI,MDR
***Resource Protection?* (Y/N)** N
Location Description or Address
NORTH AND SOUTH OF FISH HATCHERY RD BETWEEN 82ND AND RAILROAD. TWO PONDS.

Property Owner Name(s)

Wetland Acreage 0.35
Wetland Type PEM
Dominant Plant Community
FRLA,SASp,JUEF,IRPS,LEMI

Plant Community Comments
FRLA AND SASp OVERSTORY AROUND PERIMETER OF TWO PONDS. JUEF AND IRPS AT WATER EDGE. LEMI IN POND.

Soil Type
WOODBURN SILT LOAM, 0-3% SLOPES (91A)

Drainage Basin COW CREEK
Wetland Functional Value
OPEN WATER AREA IS LESS THAN 0.5 ACRE. PONDS RETAIN WATER YEAR-ROUND AND ARE PROBABLY SEASONALLY FLUSHED. FORESTED TRAVEL CORRIDOR ADJACENT TO LOWER POND. ACCESS COULD BE EASILY PROVIDED FOR EDUCATIONAL PURPOSES.

Associated Waterway Name COW CREEK
Mitigation Opportunities
ENHANCEMENT POSSIBLE BUT NOT TOO PRACTICAL. ADJACENT LAND IS SLOPED AND WOULD NOT BE EASILY CONVERTED TO WETLAND. WEED AND BLACKBERRY REMOVAL IS POSSIBLE.

Property Access Approved? (Y/N) N
Field Investigation Date 7/13/93
Field Investigators DRS,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
PONDS ARE MAN-MADE AND THE UPPER ONE IS QUITE WELL MAINTAINED WITH MOWED BANKS AND WELL-TENDED VEGETATION.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B20
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 4
Tax Lots 204,293,294,D700,D800,D900
Plan Designation Code BP
Adjoining Plan Designation Code OC,RP
Resource Protection? (Y/N) N
Location Description or Address
FIELD ADJACENT TO (NORTH) AND INCLUDING THE KEX RADIO TOWERS - IMMEDIATELY EAST OF I-205, JUST SOUTH OF SUNNYSIDE EXIT

Property Owner Name(s)

Wetland Acreage 17.56
Wetland Type PEM
Dominant Plant Community
JUEF,CAQU,POTR1,CRSp,FRLA

Plant Community Comments
HERBACEOUS - JUEF WITH MISC. PASTURE GRASSES; POCKETS OF HEAVILY GRAZED CAQU; FRINGED WITH POTR1 AND CRSp; CHANGES TO FRLA-DOMINATED WOODLAND.

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin DEER CREEK
Wetland Functional Value
RELATIVELY HIGH VALUE DUE TO LARGE SIZE, PROXIMITY OF FORESTED FRINGE, OPEN WATER (POND) AND FLOOD CONTROL. OFFSET SOMEWHAT BY GRAZING IMPACTS TO SPECIES COMPOSITION.

Associated Waterway Name N/A
Mitigation Opportunities
GOOD MITIGATION OPPORTUNITIES: EXCAVATION FOR HYDROLOGIC DIVERSITY; TREE/SHRUB/FORB PLANTINGS FOR VEGETATION COVER ENHANCEMENT (EXCLUDE GRAZING ACTIVITY)

Property Access Approved? (Y/N) N
Field Investigation Date 5/5/93
Field Investigators DRS/FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
LARGE OPEN LOW-LYING PASTURELAND WITH WOODED HILLSIDE CONSTITUTING NORTHEASTERN EDGE; POND/IMPOUNDMENT PRESENT WITHIN FORESTED MARGIN AT BASE OF SLOPE.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B21
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 4
Tax Lots D603
Plan Designation Code LDR,RP,LI
Adjoining Plan Designation Code BP
Resource Protection? (Y/N) Y
Location Description or Address
NORTH OF LAWNFIELD RD AND JUST WEST OF MATHER RD.

Property Owner Name(s)

Wetland Acreage 0.62
Wetland Type PEM
Dominant Plant Community
PHAR,JUEF,TYLA

Plant Community Comments

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
AREA HAS VALUE BECAUSE IT IS A MITIGATION SITE.

Associated Waterway Name DEER CREEK
Mitigation Opportunities
THIS IS A MITIGATION SITE. NO POTENTIAL FOR EXPANSION. LIMITED OPPORTUNITIES FOR ENHANCEMENT GIVEN DESIGN.

Property Access Approved? (Y/N) N
Field Investigation Date 8/10/93
Field Investigators RAJ
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C01
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 3
Tax Lots DA300,DA301,DD190,DD200,DD301,DD503,DD500
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
WET MEADOW STRADDLES ECHO VALLEY RD. JUST EAST OF 120TH PLACE, AND EXTENDS SOUTH TO SE SUMMER LANE.

Property Owner Name(s)

Wetland Acreage 3.18
Wetland Type PEM
Dominant Plant Community
ALPR,ELSp,LOCO,HOLA,VEAM,JUEF,RARE

Plant Community Comments
WET MEADOW GRAMINOIDS AND FORBS

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
MODERATE TO HIGH VALUE DUE TO SIZE, SEDIMENT AND FLOOD CONTROL POTENTIAL, PROBABLY YEAR-ROUND WATER SOURCE. SOMEWHAT LOWERED BY LOW STRUCTURAL DIVERSITY (LACK OF TREES/SHRUBS).

Associated Waterway Name N/A
Mitigation Opportunities
GOOD ENHANCE. POSS. SITE IS SIZABLE, HAS SUFF. WATER TO SUPPORT MORE DIVERSE PLANTINGS INCL. TREES AND SHRUBS; MAY BENEFIT FROM EXCAVATED OPEN WATER AREAS TO ATTRACT WATERFOWL. CREEK MAY BE ENHANCED FOR FISH. VALUES BY INTRO. SHADE PLANTS, STEP DAMS.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators FES,DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SIZABLE OPEN AREA DOMINATED BY HERBACEOUS SPECIES, WITH SMALL CREEK RUNNING ROUGHLY N-S THROUGH ITS LENGTH. PARTIAL ACCESS APPROVED.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C02
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 3
Tax Lots DA163,B106,B107,B108
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
FLOODPLAIN OF SOUTHERN TRIBUTARY OF MOUNT SCOTT CREEK. S. OF MATHER RD. BETWEEN 116TH CT. AND 119TH DR.

Property Owner Name(s)

Wetland Acreage 1.49
Wetland Type PFO,SS
Dominant Plant Community
FRLA,COST,CRDO,RUDI,ATFI,POTR2

Plant Community Comments
FORESTED/SCRUB-SHRUB, DOMINATED BY FRLA, COST, CRDO, RUDI. HERBACEOUS UNDERSTORY OF ATFI, POTR2.

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
MODERATE VALUE DUE TO STRUCTURAL DIVERSITY, POTENTIAL FOR FLOOD/SEDIMENT ABATEMENT. SOMEWHAT LIMITED BY SMALL SIZE.

Associated Waterway Name N/A
Mitigation Opportunities
MINIMAL DUE TO EXISTING DESIRABLE TREE COVER, LIMITED ACCESS OPPORTUNITIES FOR CREATION BY BENCHING BACK FROM MAIN CREEK, BUT WOULD REQUIRE MUCH TREE REMOVAL AND OTHER DISTURBANCE.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators DRS,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SITE IS WITHIN MULTI-LAYERED FRLA/SHRUB OVERSTORY; GOOD HABITAT VALUE WITH PROXIMITY TO CREEK. NETWORK OF SMALL DRAINAGE SWALES FEEDS INTO CREEK ALONG THIS WOODED STRETCH.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C03
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 3
Tax Lots AD302,AD400
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
ALONG TRIBUTARY OF MOUNT SCOTT CREEK (CONTIGUOUS WITH SITES C1 & C2) NORTH OF MATHER ROAD BETWEEN 116TH CT. & 119TH DR.

Property Owner Name(s)
KENNETH DAY

Wetland Acreage 0.17
Wetland Type PFO
Dominant Plant Community
ALRU,THPL,RHPU,RARE,CADE2

Plant Community Comments
FORESTED OVERSTORY (ALRU, THPL, RHPU) WITH RARE, CADE2 HERBACEOUS LAYER.

Soil Type
DELENA SILT LOAM, 3-12% SLOPES (30C)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
RELATIVELY HIGH DUE TO STRUCTURAL DIVERSITY, PRESENCE OF STREAM, FLOOD/SEDIMENT CONTROL. LIMITED SOMEWHAT BY SMALL SIZE.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators DRS,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SMALL WETLAND BENCH IMMEDIATELY ADJACENT TO STREAM (TRIBUTARY OF MOUNT SCOTT CREEK).

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label B17
Wetland Map Number B
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 10
Tax Lots DB100,DB200
Plan Designation Code LI
Adjoining Plan Designation Code LI
Resource Protection? (Y/N) N
Location Description or Address
11465 SE HWY 212, CLACKAMAS, OREGON. ADJACENT TO DRAVON MEDICAL BUILDING.

Property Owner Name(s)

Wetland Acreage 0.20
Wetland Type PSS,PEM
Dominant Plant Community
AGTE,RONA,JUTE,FERU,POTR

Plant Community Comments

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17)

Drainage Basin COW CREEK
Wetland Functional Value
THIS WETLAND IS HEAVILY IMPACTED. THE EMERGENT PORTION IS REGULARLY MOWED AND HAS VIRTUALLY NO STRUCTURAL DIVERSITY. THE SCRUB/SHRUB PORTION IS BEING INVADED BY BLACKBERRY VINES WHICH REDUCES ACCESS.

Associated Waterway Name N/A
Mitigation Opportunities
WETLAND IS CURRENTLY VERY LOW QUALITY. THE SS BUFFER ADJACENT TO STREAM IS NARROW (5-10 FT). THIS COULD BE ALLOWED TO EXPAND INTO THE UPLAND AREA FURTHER TO IMPROVE THE QUALITY OF THE BUFFER. EMERGENT WETLAND IS REGULARLY MOWED.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/13/93
Field Investigators DRS,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
IF MOWING OF THE WETLAND WERE DISCONTINUED, SPECIES DIVERSITY AND SIZE WOULD IMPROVE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C04
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 3
Tax Lots AB300
Plan Designation Code MHDR,RP
Adjoining Plan Designation Code LDR,RP
Resource Protection? (Y/N) Y
Location Description or Address
JUNCTIONS OF MT. SCOTT CREEK AND SOUTHERN TRIBUTARY S. OF SUNNYSIDE RD. - ACCESSED FROM SE 118TH DR. 50' WEST OF SMALL CHANNEL 170' SOUTH FROM JUNCTION MANHOLE COVER

Property Owner Name(s)

Wetland Acreage 0.34
Wetland Type PFO
Dominant Plant Community
ALRU,ACMA,THPL

Plant Community Comments
MIXED DECID./CONIF. WOODLAND

Soil Type
CASCADE SILT LOAM, 8-15% SLOPES (13C)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
GOOD ADJACENT WILDLIFE COVER AND TRAVEL CORRIDOR. FORESTED AREA EXTENDS OVER 1,000 FT TO THE W. AND S. WELL VEGETATED BUFFER BETWEEN WETLAND AND RESIDENTIAL NEIGHBORHOOD TO THE E. GOOD STRUCTURAL DIVERSITY.

Associated Waterway Name N/A
Mitigation Opportunities
LIMITED OPPORTUNITY; HEAVILY WOODED SITE

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WETLAND SHELF NEAR JUNCTION OF TWO STREAM CHANNELS. BENCH IS APPROX. 40' WIDE ON WEST SIDE OF SMALLER TRIBUTARY.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C05
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 3
Tax Lots AB600,AB701,AB900,AB100
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
WITHIN MT. SCOTT CREEK DRAINAGE SOUTH OF SUNNYSIDE RD. BETWEEN ~117TH AND 114TH CT. (N. FACE OF MT. TALBERT)

Property Owner Name(s)
VIOLET BRUGATO (700), HARRIET HOLLING (900), BYRON HYLTON (600)

Wetland Acreage 0.81
Wetland Type PFO
Dominant Plant Community
ALRU,THPL

Plant Community Comments
FORESTED OVERSTORY (ALRU, THPL)

Soil Type
XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP (92F)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
RELATIVELY HIGH DUE TO STRUCTURAL DIVERSITY, PROXIMITY TO STREAM.

Associated Waterway Name N/A
Mitigation Opportunities
MINIMAL - SMALL SIZE OF WETLAND BENCHING, AS WELL AS POOR ACCESSIBILITY AND DESIRABLE EXISTING VEGETATIVE COVER, INDICATE POOR OPPORTUNITY.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/5/93
Field Investigators DRS,FES
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WETLAND SHELF ADJACENT TO MOUNT SCOTT CREEK; UNDER MATURE MIXED DECIDUOUS/CONIFEROUS OVERSTORY.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C06
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 1S **Range** 2E **Section** 34
Tax Lots D1600
Plan Designation Code LDR
Adjoining Plan Designation Code MHDR
Resource Protection? (Y/N) N
Location Description or Address
NORTH SIDE OF SE SUNNYSIDE ROAD ABOUT HALFWAY BETWEEN SE 114TH AND SE 117TH

Property Owner Name(s)
CHURCH (?)

Wetland Acreage 0.09
Wetland Type PEM
Dominant Plant Community
TYLA

Plant Community Comments
TYLA POND AT THE LOW END OF AN INTERMITTENT DRAINAGE DITCH

Soil Type
CASCADE SILT LOAM, 8-15% SLOPES (13C)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
NO SHRUBBY OR WOODED BUFFER AREA TO ENCOURAGE USE OF WETLAND BY WILDLIFE. POND APPEARS TO BE EITHER MANMADE OR RECENTLY MANIPULATED. SEASONALLY FLUSHED. HIGH OPPORTUNITY FOR SEDIMENT TRAPPING.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) Y
Field Investigation Date 5/24/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
THE SMALL POND IS AT LOWER END OF ROCK-ARMORED DRAINAGE SWALE. NO DATA POINTS WERE TAKEN, AS EDGE IS SHARPLY DEFINED BY SIDESLOPES. WETLAND VEGETATION IS SUPPORTED ONLY AT SILTED LOWER END.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C07
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S/2S **Range** 2E **Section** 34,3
Tax Lots D2200,D2300,D2601,D2802 AND AA137 (IN SECTION 3)
Plan Designation Code LDR,RP
Adjoining Plan Designation Code MDR,RP
Resource Protection? (Y/N) Y
Location Description or Address
NORTH SIDE OF SE SUNNYSIDE RD., EAST OF SE 117TH, AT THE CROSSING OF MT. SCOTT CREEK

Property Owner Name(s)

Wetland Acreage 0.67
Wetland Type PFO
Dominant Plant Community
ALRU,SCMI,GLSp

Plant Community Comments
RIPARIAN COMMUNITY ADJACENT TO MT. SCOTT CREEK INCLUDES ALRU, SCMI, GLSp.

Soil Type
CASCADE SILT LOAM, 15-30% SLOPES (13D)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
WETLAND EXTREMELY SMALL. SEASONAL WATER AVAILABILITY. POOR ACCESS. ADJACENT TO GOOD WILDLIFE TRAVEL CORRIDOR ALONG MOUNT SCOTT CREEK. PROPERTIES ON EITHER SIDE OF WETLAND ALREADY DEVELOPED.

Associated Waterway Name N/A
Mitigation Opportunities
POOR MITIGATION OPPORTUNITY BECAUSE OF STEEP SLOPES.

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
HAPPY VALLEY SEWER INTERCEPTOR PROJECT (SHAPIRO 2/92). CURRENT WETLAND ON BENCH NEAR STREAM. SEEP AND HYDROPHYTIC VEGETATION ON FILL IMMEDIATELY EAST OF STREAM. NEW ROAD.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label C08
Wetland Map Number C
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 2
Tax Lots BB7400
Plan Designation Code LDR,RP
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
NW CORNER OF SUNNYSIDE ROAD AND SE 126TH AVENUE

Property Owner Name(s)

Wetland Acreage 0.06
Wetland Type PEM
Dominant Plant Community
JUEF,SCMI,VEAM

Plant Community Comments
EMERGENT HERBACEOUS SPECIES (JUEF, SCMI, VEAM, ETC.)

Soil Type
POWELL SILT LOAM (70)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
LOW FUNCTIONAL VALUE DUE TO SMALL SIZE, LACK OF STRUCTURAL DIVERSITY, HIGH LEVELS OF DISTURBANCE (ADJACENT ROADS AND RESIDENCES).

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N)
Field Investigation Date
Field Investigators
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SMALL STORMWATER DETENTION AREA. RECEIVES RUNOFF FROM RESIDENTIAL DEVELOPMENT TO THE NORTH. ABRUPT RISE OF SIDESLOPES DEFINES WETLAND BOUNDARIES. UPLAND SLOPES ARE MULCHED WITH BARKDUST AND VEGETATED WITH NURSERY SHRUBS/TREES.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label D01
Wetland Map Number D
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 35
Tax Lots
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
SOUTH OF KING RD AND WEST OF NORTH/SOUTH ACCESS RD.

Property Owner Name(s)
SCHAEFFER

Wetland Acreage 4.45
Wetland Type PEM,POW
Dominant Plant Community
JUEF,SCMI,SASp

Plant Community Comments

Soil Type
POWELL SILT LOAM, 0-8% SLOPES (70B)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
WET. LOCATED IN HEADWATERS OF SMALL TRIB. OF MT. SCOTT CREEK. DISRUPTION POT. WITH 2 ACCESS ROADS CROSSING WET. HORSES ALLOWED ACCESS, RES. PROP. ARE NEARBY TO N. PER. WATER AVAIL. VEG. AND STRUCT. DIVER. ARE LOW, BUT PER. POND W/ISL. IS PRESENT.

Associated Waterway Name N/A
Mitigation Opportunities
ENHANCEMENT OPPORTUNITIES INCLUDE ADDING TREES TO SOME OF THE OPEN AREAS. WILLOW WOULD BE THE LOGICAL CHOICE. THERE ARE PONDED AREAS THAT COULD BE EXPANDED.

Property Access Approved? (Y/N) Y
Field Investigation Date 6/16/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
ACCESS PROVIDED TO TAX LOT A2100, A1201 ONLY. A REVIEW OF THE HAPPY VALLEY INTERCEPTOR PHASE II WETLAND REPORT (ASCG 2/93) STRONGLY SUGGESTED, IN OUR OPINION, A REDUCED WETLAND AREA. THIS SITE REVIEWED 11/2/93 WITH DSL (MORLAN).

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label D02
Wetland Map Number D
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 35,36
Tax Lots
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
SOUTH OF KING RD. AND EAST OF NORTH/SOUTH ACCESS RD.

Property Owner Name(s)
SCHAEFFER

Wetland Acreage 7.57
Wetland Type PEM,POW
Dominant Plant Community
JUEF,SCMI,SASp,CRDO

Plant Community Comments

Soil Type
POWELL SILT LOAM, 0-8% SLOPES (70B)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
MODERATE VEGETATION STRUCTURAL DIVERSITY. OPEN WATER LESS THAN 1 ACRE. ABOVE HEADWATERS OF ASSOCIATED TRIBUTARY OF MOUNT SCOTT CREEK. DIRECTLY ACROSS STREET FROM GRADE SCHOOL. ACCESS IMPROVEMENT WOULD NOT BE DIFFICULT.

Associated Waterway Name N/A
Mitigation Opportunities
ENHANCEMENT OPPORTUNITIES INCLUDE ADDING TREES TO SOME OF THE OPEN AREAS. WILLOW WOULD BE THE LOGICAL CHOICE. THERE ARE PONDED AREAS THAT COULD BE EXPANDED.

Property Access Approved? (Y/N) N
Field Investigation Date 6/16/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
PREVIOUS DELINEATION BY J.D. WHITE CO. CONFIRMED. WETLAND AREA INCLUDES ARTIFICIAL, RESIDENTIAL POND IN TAX LOT A500 (LESS THAN 1 ACRE).

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label D03
Wetland Map Number D
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 25,26
Tax Lots D200,D2800,D400
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
SOUTH OF SE CALLAHAN RD, EAST OF HAPPY VALLEY PARK

Property Owner Name(s)

Wetland Acreage 18.42
Wetland Type POW,PEM
Dominant Plant Community
FRLA,CRDO,RARE,GEMA,POTR2,JUEF,RARE,ALPR,CASp

Plant Community Comments
MOSAIC OF FRLA AND CRDO-DOMINATED FORESTED WETLAND, SCATTERED CRDO SHRUBS. UNDERSTORY OF RARE, GEMA, POTR2. WET MEADOW AREAS WITH VARIOUS CAREX SP., JUEF, RARE, ALPR.

Soil Type
BORGES SILTY CLAY LOAM, 0-8% SLOPES

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
RELATIVELY LARGE INTACT WELAND. GOOD STRUCTURAL DIVERSITY, WILDLIFE HABITAT AND TRAVEL CORRIDOR. EDUCATIONAL ACCESS FEASIBLE.

Associated Waterway Name N/A
Mitigation Opportunities
ADJACENT UPLAND WOULD BE EASILY ENHANCED, THE SLOPE WOULD NOT REQUIRE EXTENSIVE EXCAVATION.

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
LOCATED ALONG MOUNT SCOTT CREEK, SOUTH OF CALLAHAN ROAD, WEST OF 145TH AVENUE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label D04
Wetland Map Number D
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 25
Tax Lots 200
Plan Designation Code LDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
ALONG STRETCH OF MOUNT SCOTT CREEK, EAST OF 145TH AVENUE

Property Owner Name(s)

Wetland Acreage 4.81
Wetland Type POW,PEM
Dominant Plant Community
CASp,JUEF,RARE,ALPR,ROSp

Plant Community Comments
VARIOUS CASp, JUEF, RARE, ALPR IN WET MEADOW AREAS - SCATTERED CLUMPS OF ROSp.

Soil Type
BORGES SILTY CLAY LOAM, 0-8% SLOPES (7B)

Drainage Basin MOUNT SCOTT CREEK
Wetland Functional Value
GOOD WILDLIFE TRAVEL CORRIDOR. GOOD STRUCTURAL DIVERSITY. VERY LITTLE HUMAN DISTURBANCE WITHIN 750 FEET. SURFACE WATER GENERALLY AVAILABLE.

Associated Waterway Name N/A
Mitigation Opportunities
ADJACENT UPLAND WOULD BE EASILY ENHANCED; THE SLOPE WOULD NOT REQUIRE EXTENSIVE EXCAVATION.

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label D05
Wetland Map Number D
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 26
Tax Lots BA300
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
WEST OF SE 132ND, JUST SOUTH OF PORTLAND CITY LIMITS.

Property Owner Name(s)

Wetland Acreage 0.09
Wetland Type PFO
Dominant Plant Community
FRLA,PHAR

Plant Community Comments
FRLA OVERSTORY WITH PHAR HERB LAYER

Soil Type
CASCADE SILT LOAM (13B)

Drainage Basin JOHNSON CREEK
Wetland Functional Value
GOOD HABITAT VALUE WITH PROXIMITY TO STREAM AND FORESTED OVERSTORY. SEASONALLY FLUSHED. PHAR PERFORMS SEDIMENT TRAPPING.

Associated Waterway Name N/A
Mitigation Opportunities
THERE MAY BE WAYS TO BENCH BACK SOME OF THE AREAS ALONG THE STREAM. WITHOUT ACCESS, EVALUATION OF OPPORTUNITIES IS DIFFICULT.

Property Access Approved? (Y/N) N
Field Investigation Date 6/16/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
RECENT RESIDENTIAL CONSTRUCTION TO THE NORTH AND EAST. WETLAND LOCATED ON TRIBUTARY OF JOHNSON CREEK.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label E01
Wetland Map Number E
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 1S **Range** 2E **Section** 32
Tax Lots 100
Plan Designation Code LDR
Adjoining Plan Designation Code PCU
Resource Protection? (Y/N) N
Location Description or Address
ADJACENT TO PEMBROKE CT. AND MAPLEHURST ST. - NORTHERN EDGE OF ACREAGE; SMALL EXCAVATED OPEN WATER FARM POND ACTIVELY CULTIVATED LESS THAN 100 FT FROM MAPLEHURST ST.

E01
not fw or PC - very little hydric soil (NW corner) hay pond

Property Owner Name(s)

Wetland Acreage 0.34
Wetland Type POW
Dominant Plant Community
TYLA

Plant Community Comments

Soil Type
WAPATO SILTY CLAY LOAM (84)

Drainage Basin JOHNSON CREEK
Wetland Functional Value
LOW VALUE DUE TO LIMITED HYDROPHYTIC COMMUNITY, LACK OF STRUCTURAL DIVERSITY, NO BUFFERS TO DISTURBANCE FROM FARM EQUIPMENT.

Associated Waterway Name N/A
Mitigation Opportunities
MINIMAL; UNCERTAIN HYDROLOGY IN AREA.

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators FES,JVS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
40 X 60' FARM POND IS OBVIOUSLY EXCAVATED (MAY BE ASSOCIATED WITH WELL). COMMODITY CROPS RAISED IN SURROUNDING FIELDS. DRAINAGE/MANIPULATION HISTORY INDETERMINATE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label E02
Wetland Map Number E
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 32
Tax Lots BA4900
Plan Designation Code LDR
Adjoining Plan Designation Code PCU
Resource Protection? (Y/N) N
Location Description or Address
CHANNEL S. OF MONROE ST. AND 70TH AVE., EAST OF MAPLEHURST - EXTENDS AS INCISED CHANNEL TO SE, ACCESS TO LARGE WOODED AREA (RESTRICTED).

Property Owner Name(s)

Wetland Acreage 0.10
Wetland Type PFO,SS
Dominant Plant Community
ALRU,FRLA,POTR1,RUDI

Plant Community Comments
FORESTED SCRUB/SHRUB WITH ALRU, FRLA, POTR, RUDI: UNKNOWN TO INTERIOR

Soil Type
QUATAMA LOAM (71 A/B)

Drainage Basin JOHNSON CREEK
Wetland Functional Value
RELATIVELY HIGH VALUE DUE TO VEGETATION DIVERSITY, PERMANENT WATER, SEDIMENT/FLOOD CONTROL POTENTIAL.

Associated Waterway Name N/A
Mitigation Opportunities
POOR

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators FES,JVS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
POND IS EVIDENT EAST OF WOODED AREA ON AERIAL PHOTO - APPEARS TO BE ON NURSERY PROPERTY, IS MOST LIKELY AN IMPOUNDMENT OF THE CREEK.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label E03
Wetland Map Number E
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 1S **Range** 2E **Section** 32
Tax Lots BA2600
Plan Designation Code LDR
Adjoining Plan Designation Code PCU
Resource Protection? (Y/N) N
Location Description or Address
NORTH SIDE OF MONROE ST. APPROX. 300 FT. WEST OF SE 70TH AVE.

Property Owner Name(s)

Wetland Acreage 0.10
Wetland Type PEM
Dominant Plant Community
N/A

Plant Community Comments
DISTURBED - LAWN GRASSES (VERY POOR GROWTH, BARE DIRT INDICATING SATURATED, POSSIBLY PONDED SEASONALLY)

Soil Type
QUATAMA LOAM, (71B)

Drainage Basin JOHNSON CREEK
Wetland Functional Value
NOT ASSESSED

Associated Waterway Name N/A
Mitigation Opportunities
NONE - VERY MARGINAL VALUE IF ACTUALLY WETLAND (COULDN'T SAMPLE DIRECTLY); TOO SMALL, POOR LOCATION (HIGH DISTURBANCE)

Property Access Approved? (Y/N) N
Field Investigation Date 5/24/93
Field Investigators FES,JVS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label E04
Wetland Map Number E
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 1S **Range** 2E **Section** 29
Tax Lots DC109,C200,CD100
Plan Designation Code MDR,RP
Adjoining Plan Designation Code MHDR
Resource Protection? (Y/N) Y
Location Description or Address
OLD QUARRY SITE N. OF KING RD. AT 74TH - QUARRY POND SURROUNDED BY MOBILE HOME PARK

Property Owner Name(s)
MOBILE HOME PARK (?) OR PORTLAND PAVING

Wetland Acreage 6.09
Wetland Type POW
Dominant Plant Community
N/A

Plant Community Comments
NONE - RECENTLY DISTURBED

Soil Type
MULTNOMAH SILT LOAM, 0-3% SLOPES (61A)

Drainage Basin JOHNSON CREEK
Wetland Functional Value
NOT ASSESSED

Associated Waterway Name N/A
Mitigation Opportunities
QUARRY POND USED HERE AS SCENIC AMENITY; MITIGATION OPPORTUNITIES LIMITED.

Property Access Approved? (Y/N) Y
Field Investigation Date 5/24/93
Field Investigators FES,JVS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1
Comments
LARGE OPEN WATER BODY (QUARRY POND) ASSOCIATED WITH FORMER EXCAVATIONS. NO SAMPLING OF SITE DUE TO SHARPLY INCISED POND MARGINS.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F02
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 8
Tax Lots CB101,CA2600,CA2702,CA2701,CA2700,CA2704,CA3500,CA3600,CA2800,CA2900
Plan Designation Code RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
ADJACENT TO KELLOGG CREEK FROM CLACKAMAS ROAD AT THE NORTHWEST END TO WEBSTER ROAD AT THE SOUTHEAST END.

Property Owner Name(s)

Wetland Acreage 12.95
Wetland Type PFO,EM
Dominant Plant Community
PHAR,LOCO,ELPA,BICE,POSp

Plant Community Comments

Soil Type
CLACKAMAS SILT LOAM, 0-3% SLOPES (17), WAPATO SILTY CLAY LOAM, 0-3% SLOPES (84)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
THE PORTION LEFT FOR RESOURCE PROTECTION IS WIDE ENOUGH TO PROVIDE A SIGNIFICANT BUFFER (100+ FT) ON EITHER SIDE OF KELLOGG CREEK. KELLOGG CREEK CONTAINS PERENNIAL WATER.

Associated Waterway Name KELLOGG CREEK
Mitigation Opportunities
STRUCTURAL DIVERSITY COULD BE IMPROVED BY PLANTING SHRUB AND TREE SPECIES. REED CANARYGRASS COULD BE REMOVED AND DEEPER WATER AREAS COULD BE CREATED.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/28/93, 6/29/93
Field Investigators DRS,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
ACCESS PERMISSION WAS NOT GRANTED FOR THE ENTIRE LENGTH OF THE WETLAND. ADDITIONAL DATA INCLUDED FROM WETLAND DELINEATION CONDUCTED BY SCIENTIFIC RESOURCES, INC. FOR BYRON ROOT (11/27/91).

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F01
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 6
Tax Lots BA400,DB500,DB501,DB200,DB300,DB800,DB900
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
MCGLOUGHLIN PROPERTY - 13775 SE RUSK RD

Property Owner Name(s)
DAN MCLOUGHLIN

Wetland Acreage 2.09
Wetland Type PFO
Dominant Plant Community
ALRU,FRLA,ACMA,THPL,COCO,SARA,RUSP,LYAM,GLSp,RARE,EQAR

Plant Community Comments
FORESTED OVERSTORY OF ALRU, FRLA ACMA, THPL; SHRUBS INCLUDE COCO, SARA, RUSP; DOMINANT HERBS/GRAMINOIDS INCLUDE LYAM, GLSp, RARE, EQAR, ETC.

Soil Type
WAPATO SILTY CLAY LOAM (84) AND COVE SILTY CLAY LOAM (25)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
VERY HIGH VALUE AS WILDLIFE HABITAT, FLOOD/SEDIMENT CONTROL, AND SCENIC AMENITY, DESPITE NARROW WIDTH.

Associated Waterway Name UNNAMED TRIBUTARY
Mitigation Opportunities
ALREADY GOOD QUALITY HABITAT ON PRIVATE LAND - LIMITED OPPORTUNITY FOR EXPANSION WITHOUT IMPACTS TO STREAM.

Property Access Approved? (Y/N) Y
Field Investigation Date 6/29/93
Field Investigators FES,DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
RIPARIAN AREA OF KELLOGG CR. TRIBUTARY EXTENDS NORTH FROM CREEK JUNCTURE TO WITHIN APPROX. 200' OF KELLOGG CR. DRIVE. SOME FILL ACTIVITY MAY BE ASSOCIATED WITH CHURCH CONSTRUCTION SEVERAL HUNDRED FEET UPSTREAM TO NW OF SAMPLE SITES.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F03
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 1E **Section** 1
Tax Lots DA3000
Plan Designation Code RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
EAST OF THE NORTH END OF FERNRIDGE AVENUE (13670 SE FERNRIDGE)

Property Owner Name(s)
VOLPP

Wetland Acreage 0.15
Wetland Type PEM
Dominant Plant Community
RARE,ATFI,URDI,GEMA,RUDI

Plant Community Comments
RARE, ATFI, URDI, GEMA IN HERB LAYER; RUDI CONSTITUES SHRUB/WOODY VINE LAYER.

Soil Type
XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP (92F)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
MEDIUM VALUE WETLAND DUE TO STRUCTURAL DIVERSITY (GOOD COVER FOR WILDLIFE), PERENNIAL WATER SOURCE, POTENTIAL FOR FLOOD/SEDIMENT REDUCTION. LIMITED BY SMALL SIZE, IMPACTS FROM ADJACENT RESIDENTIAL DEVELOPMENT.

Associated Waterway Name N/A
Mitigation Opportunities
LITTLE OPPORTUNITY FOR ENHANCEMENT. SUBSTRATE VERY ROCKY.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/7/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WETLAND CONSISTS OF AN APPROX. 20 FOOT WIDE BENCH ON THE WEST SIDE OF A SMALL CREEK THAT MAY HAVE PERENNIAL FLOW.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F04
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 9,16
Tax Lots B1500
Plan Designation Code RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
DIRECTLY EAST OF JOHNSON CITY. SOUTH OF TRAILER PARK AND NORTH OF RESIDENTIAL SUBDIVISION. DIRECTLY WEST OF I-205.

Property Owner Name(s)

Wetland Acreage 13.17
Wetland Type PSS
Dominant Plant Community
SASp,SPDO,COST,FRLA

Plant Community Comments
MOSAIC OF SCRUB/SHRUB VEGETATION DOMINATED BY SASp, SPDO, COST AND FRLA.

Soil Type
HUMAQUEPTS, PONDED, 0-2% SLOPES (42)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
LARGE WETLAND WITH GOOD STRUCTURAL DIVERSITY. PROBABLY AREAS OF SHALLOW OPEN WATER DURING WET SEASON. SEASONALLY FLUSHED TO STAGNANT. GOOD FLOOD CONTROL FUNCTION. GOOD EDUCATIONAL POTENTIAL.

Associated Waterway Name KELLOGG CREEK
Mitigation Opportunities
WETLAND COULD BE ENHANCED BY THE CONSTRUCTION OF OPEN WATER AREAS. THIS IS A RELATIVELY HIGH QUALITY WETLAND GIVEN THE SUBURBAN SETTING. IT IS LARGE ENOUGH THAT DISTURBANCES FROM ADJACENT RESIDENTIAL AREAS AND I-205 WOULD NOT AFFECT INTERIOR WILDLIFE.

Property Access Approved? (Y/N) N
Field Investigation Date 8/13/93
Field Investigators DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
AN AMOUNT OF WETLAND HAS PROBABLY ALREADY BEEN FILLED IN THE COURSE OF ADJACENT DEVELOPMENT. RESIDENTIAL DEVELOPMENT ON 3 SIDES WITH I-205 ALONG EAST EDGE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F05
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 1S **Range** 2E **Section** 8
Tax Lots BB4000
Plan Designation Code RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
SE CORNER OF THIESSEN ROAD AND SE ALDERCREST CT.

Property Owner Name(s)

Wetland Acreage 0.07
Wetland Type PEM
Dominant Plant Community
LEMI,PHAR,SCMI

Plant Community Comments
LEMI IN OPEN WATER AREAS, OTHER AREAS DOMINATED BY PHAR, SCMI

Soil Type
WAPATO SILTY CLAY LOAM, 0-3% SLOPES (84)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
GOOD STRUCTURAL DIVERSITY AND INTERSPERSION OF OPEN WATER AND UPLAND/WETLAND MOUNDS AND BANKS. DRAWBACKS ARE ITS SMALL SIZE AND CLOSE PROXIMITY OF ROADS AND HOMES.

Associated Waterway Name KELLOGG CREEK
Mitigation Opportunities
THIS WETLAND IS PROBABLY ABOUT THE BEST IT COULD BE.

Property Access Approved? (Y/N) N
Field Investigation Date 8/13/93
Field Investigators DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
THE WETLAND IS BORDERED BY UPLAND SHRUBS AND HAS AN ADJACENT CONCRETE LINED POND. THE WETLAND PROBABLY RECEIVES ITS HYDROLOGY FROM A SPRING.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F06
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 8
Tax Lots
Plan Designation Code RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
NORTH OF SE WILDLIFE

Property Owner Name(s)

Wetland Acreage 0.05
Wetland Type PEM
Dominant Plant Community
JUEF

Plant Community Comments
PRIMARILY JUEF

Soil Type
WAPATO SILTY CLAY LOAM (84)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
VERY SMALL WETLAND. SEASONALLY INUNDATED. STAGNANT TO SEASONALLY FLUSHED WATER. LITTLE VEGETATION AND STRUCTURAL DIVERSITY. LITTLE INTERSPERSION OF COMMUNITY TYPES. MAYBE SEASONAL OPEN WATER.

Associated Waterway Name N/A
Mitigation Opportunities
ENHANCEMENT BY PLANTING TREES AND SHRUBS; POSSIBLY CREATING OPEN WATER AREAS.

Property Access Approved? (Y/N) N
Field Investigation Date 6/29/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F07
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 8
Tax Lots
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
POND TO NE OF AND DOWNHILL FROM HOUSES AT WEST END OF MABEL AVENUE

Property Owner Name(s)

Wetland Acreage 0.59
Wetland Type POW
Dominant Plant Community
N/A

Plant Community Comments
LACKS ASSOCIATED WETLAND COMMUNITY

Soil Type
WOODBURN SILT LOAM, 3-8% SLOPES (91B)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
LOW SIGNIFICANCE DUE TO LEVEL OF DISTURBANCE FROM ADJACENT RESIDENCES, SMALL SIZE, AND LACK OF ASSOC. WETLAND VEGETATION. NOT FURTHER ASSESSED.

Associated Waterway Name N/A
Mitigation Opportunities
NONE

Property Access Approved? (Y/N) N
Field Investigation Date 6/29/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SMALL IMPOUNDMENT OF WATER OFF HILLSIDE; UNCERTAIN AS TO MODE OF ORIGIN (WHETHER NATURALLY OCCURRING DEPRESSION OR EXCAVATION).

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label F08
Wetland Map Number F
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 6
Tax Lots DD101
Plan Designation Code LDR,RP
Adjoining Plan Designation Code PCU
Resource Protection? (Y/N) Y
Location Description or Address
KELLOGG CREEK DRAINAGE JUST EAST OF PARMENTER CT. CROSSING; NE OF ALDERCREST RD./WILLOW LN. INTERSECTION

Property Owner Name(s)
S. HASHIGUCHI - 14104 SE PARMENTER DR.

Wetland Acreage 0.64
Wetland Type POW
Dominant Plant Community
N/A

Plant Community Comments
RIPARIAN TO UPLAND TREE OVERSTORY - RESIDENTIAL LANDSCAPING

Soil Type
WOODBURN SILT LOAM, 3-8% SLOPES (91B)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
POTENTIAL FLOOD CONTROL CAPACITY DEPENDING ON DAM DESIGN, MAY ALLOW SILT SETTLING; MINOR SIGNIFICANCE OVERALL DUE TO DISTURBANCE LEVELS, LACK OF VEGETATED WETLAND EDGE.

Associated Waterway Name N/A
Mitigation Opportunities
NONE - CLOSELY BORDERED BY RESIDENTIAL DEVELOPMENT.

Property Access Approved? (Y/N) Y
Field Investigation Date 8/4/93
Field Investigators FES,DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
POND IS IMPOUNDMENT OF KELLOGG CREEK WITH SHARPLY DEFINED AQUATIC/UPLAND BOUNDARIES. POND OF INDETERMINANT DEPTH. SAMPLING WAS DEEMED UNNECESSARY FOR DETERMINATION.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label G01
Wetland Map Number G
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 18
Tax Lots DC226,DC1700,DD2100,DD2500,DD2600,AB8400,AB8500
Plan Designation Code IC,LDR,MDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
NORTH AND SOUTH OF HULL AVE., EAST OF ADDIE ST., SOUTH OF WHISPERING OAKS SUBDIVISION.

Property Owner Name(s)
ARMBRUST

Wetland Acreage 7.63
Wetland Type PFO,PEM
Dominant Plant Community
TYLA,OESA,JUEF,ROSp,CRDO,FRLA,SPDO

Plant Community Comments
TYLA, OESA, JUEF IN HERBACEOUS LAYER, ROSA SP., CRDO, FRLA, SPDO IN SHRUB/SAPLING LAYER.

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
LARGE SIZE, GOOD STRUCTURAL DIVERSITY. WATER STAGNANT TO SEASONALLY FLUSHED. DENSE VEGETATION LIMITS ACCESS AND HUMAN DISTURBANCE. GOOD WILDLIFE COVER.

Associated Waterway Name N/A
Mitigation Opportunities
OPEN WATER AREAS COULD BE CONSTRUCTED TO DIVERSIFY HABITAT TYPES.

Property Access Approved? (Y/N) Y
Field Investigation Date 6/30/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WITH SOME ENHANCEMENT, SITE WOULD MAKE A GOOD EDUCATIONAL PUBLIC PARK.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label G02
Wetland Map Number G
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 2E **Section** 18
Tax Lots CA3502,CA2700,CA4400,CA4100
Plan Designation Code LDR,RP
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) Y
Location Description or Address
NORTH OF JENNINGS, SOUTH OF BOARDMAN, EAST OF ADDIE, WEST OF COOK

Property Owner Name(s)

Wetland Acreage 6.75
Wetland Type PEM
Dominant Plant Community
TYLA,SASp

Plant Community Comments

Soil Type
COVE SILTY CLAY LOAM, 0-2% SLOPES (25)

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
LARGE SIZE. VEGETATION RELATIVELY DENSE WHICH LIMITS HUMAN DISTURBANCE. CLOSE PROXIMITY TO RESIDENTIAL AREAS COULD ENCOURAGE EDUCATIONAL OPPORTUNITIES.

Associated Waterway Name N/A
Mitigation Opportunities
CREATE OPEN WATER AREAS TO DIVERSIFY HABITAT TYPES. PLANTING OF TREE AND SHRUB SPECIES.

Property Access Approved? (Y/N) N
Field Investigation Date 6/30/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WITH SOME ENHANCEMENT, SITE WOULD MAKE A GOOD EDUCATIONAL PUBLIC PARK. APPROVAL FROM CA2700 OWNER; MAJORITY OF SITE NOT ACCESSIBLE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label G03
Wetland Map Number G
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 2E **Section** 18
Tax Lots CA4800,CD600
Plan Designation Code MDR
Adjoining Plan Designation Code GC
Resource Protection? (Y/N) N
Location Description or Address
NE OF THE INTERSECTION OF MCLOUGHLIN BLVD. AND JENNINGS

Property Owner Name(s)

Wetland Acreage 0.10
Wetland Type PEM
Dominant Plant Community
PHAR,HOLA,AGAL,JUEF,CASp

Plant Community Comments
WET MEADOW DOMINATED BY PHAR, HOLA, AGAL, JUEF, CASp

Soil Type
WOODBURN SILT LOAM, 3-8% SLOPES (91B)

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
VERY SMALL WETLAND WITH LOW SPECIES AND STRUCTURAL DIVERSITY. PROBABLE SEASONAL INUNDATION WITH WATER STAGNANT TO SEASONALLY FLUSHED. VERY NARROW BUFFER BETWEEN WETLAND AND SURROUNDING DEVELOPMENT.

Associated Waterway Name N/A
Mitigation Opportunities
THIS IS A VERY SMALL WETLAND WITH LITTLE OPPORTUNITY FOR ENHANCEMENT.

Property Access Approved? (Y/N) Y
Field Investigation Date 6/30/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
ADJACENT UPLAND IS GRASSY FIELD, OCCASIONALLY MOWED. BUILDINGS AND PARKING LOT LOCATED DIRECTLY TO THE NORTH.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label H01
Wetland Map Number H
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 1E **Section** 1
Tax Lots BC6500
Plan Designation Code LDR
Adjoining Plan Designation Code GC
Resource Protection? (Y/N) N
Location Description or Address
NE OF INTERSECTION OF SE SILVER SPRINGS RD AND SE ARISTA RD

Property Owner Name(s)

Wetland Acreage 0.25
Wetland Type PFO
Dominant Plant Community
SASp,FRLA

Plant Community Comments

Soil Type
ALOHA SILT LOAM (1B)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
STRUCTURAL DIVERSITY FROM TREE/SHRUB COVER PROVIDES SOME HABITAT VALUE.

Associated Waterway Name N/A
Mitigation Opportunities
MINIMAL; THIS IS A POND, LINED WITH SALIX SP. AND FRLA. ADJACENT AREAS ARE EITHER DEVELOPED OR DENSELY VEGETATED.

Property Access Approved? (Y/N) Y
Field Investigation Date 6/29/93
Field Investigators DRS,DG
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1"=400'
Comments
WETLAND BOUNDARY SHARPLY DEFINED BY ABRUPT POND EDGE. NO SAMPLING REQUIRED.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label H02
Wetland Map Number H
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 1E **Section** 2
Tax Lots CC3400
Plan Designation Code RP
Adjoining Plan Designation Code LDR,GI,MDR
Resource Protection? (Y/N) Y
Location Description or Address
NORTH AND SOUTH OF COURTNEY AVENUE, EAST OF ARISTA DRIVE. TWO WETLAND POCKETS.

Property Owner Name(s)

Wetland Acreage 0.42
Wetland Type PEM
Dominant Plant Community
RARE,SCMI,GLSp,SASp

Plant Community Comments
RARE, SCMI, GLSp IN HERB LAYER; SASp IN SHRUB/SAPLING LAYER

Soil Type
ALOHA SILT LOAM, 3-6% SLOPES (1B)

Drainage Basin KELLOGG CREEK
Wetland Functional Value
WETLAND SMALL, ISOLATED. FAIR STRUCTURAL DIVERSITY. WATER STAGNANT TO SEASONALLY FLUSHED. HUMAN ACCESS DIFFICULT DUE TO HEAVY BRUSH. TWO WETLANDS HYDROLOGICALLY CONNECTED VIA CULVERT.

Associated Waterway Name N/A
Mitigation Opportunities
MAY BE OPPORTUNITY TO ENHANCE WETLAND BY EXCAVATING ADJACENT AREAS - THIS WOULD BE EXPENSIVE.

Property Access Approved? (Y/N) Y
Field Investigation Date 7/7/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
MOCKBEE SCOLES ASSOC. DELINEATION 5/91. NORTH OF COURTNEY AVE. PROPERTY ACCESS WAS LIMITED TO CORNER LOT - WETLAND EXTENDS INTO OFFSITE AREA TO NE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label H03
Wetland Map Number H
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 1E **Section** 11
Tax Lots 2400
Plan Designation Code LDR
Adjoining Plan Designation Code
Resource Protection? (Y/N) N
Location Description or Address
EAST SIDE OF SE FAIR OAKS AVE., NEAR INTERSECTION OF SE FAIR OAKS AND SE THORTON DRIVE.

Property Owner Name(s)
DICK GORSEK

Wetland Acreage 0.01
Wetland Type PFO
Dominant Plant Community
FRLA,RARE,TYLA,JUEF,PHAR

Plant Community Comments
FRLA TREE LAYER ADJACENT TO STREAM, WITH RARE, TYLA, JUEF AND PHAR IN HERBACEOUS LAYER

Soil Type
CHEHALIS SILT LOAM (16)

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
GOOD VALUE DUE TO PROXIMITY TO STREAM, DIVERSITY OF ADJACENT RIPARIAN COMMUNITY, SOME SEDIMENT/FLOOD-MODERATING POTENTIAL. LIMITED BY SMALL SIZE.

Associated Waterway Name FOREST CREEK
Mitigation Opportunities
MINIMAL; PERHAPS ENHANCE THE RIPARIAN VEGETATION; BENCHING EXCAVATION POSSIBLE BUT EXPENSIVE.

Property Access Approved? (Y/N) Y
Field Investigation Date 8/3/92
Field Investigators FES/DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
SMALL WETLAND BENCH ADJACENT TO PERENNIAL STREAM. FRLA OVERSTORY, RELATIVELY STEEP UPPER BANKS ABOVE CREEK.

SRI/SHAPIRO

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label H04
Wetland Map Number H
Wetland Name
Draft Goal 5 Significant? (Y/N) Y
Township 2S **Range** 1E,2E **Section** 13,18
Tax Lots AD1604,A800,CB1090,CB801,CD1100,CB1700
Plan Designation Code MDR,LI,GC
Adjoining Plan Designation Code LDR,LI
Resource Protection? (Y/N) N
Location Description or Address
ALONG OLD RAILROAD GRADE WEST OF MCLOUGHLIN BLVD FROM HALFWAY BETWEEN JENNINGS AND BOARDMAN AT THE SOUTH TO ROETHE RD AT THE NORTH.

Property Owner Name(s)
PORTLAND TRACTION?

Wetland Acreage 1.75
Wetland Type PEM
Dominant Plant Community
IRPS,JUEF,LYSA,PHAR

Plant Community Comments

Soil Type
WOODBURN SILT LOAM, 8-15% SLOPES (91C), COVE SILTY CLAY LOAM, 0-2% SLOPES (25), HUMAQUEPTS, PONDED,

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
LIMITED SPECIES AND STRUCTURAL DIVERSITY. DEVELOPMENT PRESSURES ADJACENT TO WETLAND. WATER STAGNANT TO SEASONALLY FLUSHED.

Associated Waterway Name N/A
Mitigation Opportunities
A LOT OF FILL HAS BEEN PLACED HERE WHICH WOULD IMPAIR THE ESTABLISHMENT OF VEGETATION.

Property Access Approved? (Y/N) N
Field Investigation Date 6/30/93
Field Investigators DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
LONG LINEAR WETLAND APPROX. 2000 FEET LONG. WOULD BE A GOOD AREA TO ESTABLISH A WALKING PATH FOR NEARBY RESIDENTIAL USE.

NORTH CLACKAMAS COUNTY WETLAND INVENTORY
PRELIMINARY DATA-BASE COMPONENTS
05/05/94

Wetland Code Label H05
Wetland Map Number H
Wetland Name
Draft Goal 5 Significant? (Y/N) N
Township 2S **Range** 1E **Section** 2
Tax Lots AC300
Plan Designation Code HDR
Adjoining Plan Designation Code LDR
Resource Protection? (Y/N) N
Location Description or Address
RIVER VIEW RETIREMENT HOME

Def 99-0447

Property Owner Name(s)

Wetland Acreage 0.03
Wetland Type PEM
Dominant Plant Community
TYLA,SASp

Plant Community Comments

Soil Type
WOODBURN SILT LOAM (91) - MAY HAVE DAYTON AND HUBERLY SOIL INCLUSIONS/WET SPOTS

Drainage Basin WILLAMETTE RIVER DIRECT
Wetland Functional Value
LOW VALUE DUE TO SMALL SIZE, LACK OF RELIABLE WATER SOURCE. NEVERTHELESS, SOME STRUCTURAL DIVERSITY AND MODERATE TO LOW LEVELS OF DISTURBANCE ALLOW POTENTIAL WILDLIFE USE AND PROVIDE SCENIC AMENITY TO RETIREMENT HOME.

Associated Waterway Name N/A
Mitigation Opportunities
MINIMAL; POSSIBLE EXPANSION OF WETLAND BY EXCAVATION; ADD MORE PLANTS. PRIVATE PROPERTY; LANDSCAPED AREA.

Property Access Approved? (Y/N) Y
Field Investigation Date 8/3/93
Field Investigators FES/DRS
Source Aerial Photo No. COLOR **Date** 6/92 **Scale** 1" = 400'
Comments
WETLAND IS LOCATED AT BASE OF SHORT, STEEP SLOPE BEHIND REST HOME. LEAKAGE FROM FOUNTAIN IN LANDSCAPED GARDEN MAY CONTRIBUTE SIGNIFICANTLY TO HYDROLOGY OF SITE.