City of Seaside
Local Wetlands Inventory
and
Riparian Inventory

Prepared by:

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November 2000

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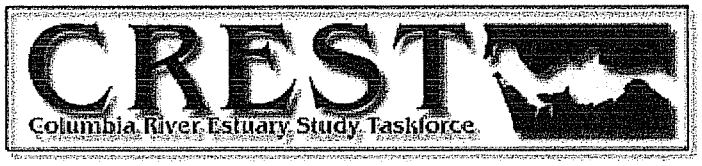

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Kathy was the Executive Director of the Columbia River Estuary Study Taskforce from 1996 through August 2000. From 1992-1996, Kathy served as a tenure-track Assistant Coastal Carolina University. She taught Ecology, Wetland Plant Ecology, and Plant-Animal Interactions as well as Biological Science classes and designed all of her upper-division lab courses to take advantage of local field sites. She wrote lab manuals for each field class, advised student research projects, and conducted her own research.

Kathy's peer-reviewed wetland publications include:

Taylor, K.L., J.B. Grace, and B.D. Marx. 1997. The effects of herbivory on neighbor interactions along coastal marsh gradient. *American Journal of Botany 84(5) :709-715.*

Taylor, K.L., and J.B. Grace. 1995. Effects of vertebrate herbivory on plant community structure in the coastal marshes of the Pearl River, Louisiana, USA. *Wetlands 15(1): 68-73.*

Taylor, K.L., J.B. Grace, G.R. Guntenspergen, and A.L. Foote. 1994. The interactive effects of herbivory and fire on an oligohaline marsh, Little Lake, Louisiana, USA. *Wetlands 14(2): 82-87.*

Gough, L., J.B. Grace, and **K.L. Taylor**. 1994. The relationship between species richness and community biomass: The importance of environmental variables. *Oikos 70: 271-279.*

Taylor, K.L. and R.W. Fonda. 1990. Woody fuel structure and fire in subalpine fir forests, Olympic National Park, Washington. *Canadian Journal of Forest Research 20: 193-199.*

KIM TRIMPERT

Kim earned her undergraduate degree from the Coast Guard Academy and her Master's degree from the University of South Florida. Her graduate work focussed on Oregon Coastal Zone Management. She was the Coastal Estuarine Planner at CREST during the first part of this project. Before joining CREST, she was a Planning Assistant at the City of Seaside.

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Matt completed the mapping for this project. Matt earned his Master's degree from the University of Oregon and his undergraduate degree from Towson University in Maryland. His graduate work focussed on coastal zone management and conservation area planning. During his graduate work, Matt completed technical assistance projects in Pacific Island countries. As a Graduate Teaching Fellow Matt instructed graduate level GIS courses. Matt was the Coastal Estuarine Planner at CREST during this project.

I. INTRODUCTION

On February 6, 1998, the Oregon Division of State Lands (DSL) awarded a grant to the Columbia River Estuary Study Taskforce (CREST) to conduct a Local Wetlands Inventory (LWI) within the City Limits and Urban Growth Boundary of Seaside. An LWI is needed in the City of Seaside to identify the location and assess the quality of all wetlands greater than one-half acre for planning and informational purposes. In addition, this information will help the City of Seaside comply with Goal 5 (*Open Spaces, Scenic and Historic Areas, and Natural Resources*) of the Oregon Statewide Planning Goals.

This report will outline the elements of the Local Wetland and Riparian Inventory for the City of Seaside. This will include the methodology used to gather baseline information, conduct the fieldwork, produce the inventory maps and datasheets, and assess the wetlands and riparian corridors.

II. DEFINITIONS

1. Wetlands - 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. (As defined by the Corps of Engineers (Federal Register 1982) and the EPA (Federal Register 1980))

2. Wetland Regulation - wetlands in Oregon are regulated by the U.S. Army Corps of Engineers through Section 404 of the Clean Water Act and the Oregon Division of State Lands through the Removal - Fill Law (ORS 196.800-196.990).

3. Local Wetland Inventory (as defined by Division of State Lands) - is a systematic survey of a large geographic area to locate and map wetlands and classify them by type. An inventory of all wetlands greater than 0.5 acres in size is conducted within a local jurisdiction using the standards and procedures of OAR 141-86-110 through 141-86-240. The LWI consists of wetland maps and a report. The report includes additional information about the inventory area and the individual wetlands, including: acreage of wetlands; acreage of each wetland type; location, size and classification of each wetland; description of each wetland; and all tax lots containing wetlands.

In 1989, the Division of State Lands was authorized to develop a statewide wetlands inventory for planning and regulatory purposes. An approved LWI replaces the National Wetlands Inventory maps

Wetland Classifications
The following are definitions from the *Classifications of Wetlands and Deepwater Habitats of the United States* (USFWS, 1979):

Aquatic Bed - Includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

Emergent Wetland - is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Perennial plants usually dominate these wetlands.

Estuarine System - Includes deepwater tidal habitats and adjacent tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land.

Forested Wetland - Includes areas dominated by woody vegetation greater than 6m (20 feet) tall.

Lacustrine System - Includes wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel; (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 30% area coverage; and (3) total area exceeds 20 acres. Lacustrine waters may be tidal or nontidal, but ocean-derived salinity is always less than .5 parts per thousand.

Palustrine System - Includes all nontidal wetlands dominated by trees, shrubs, persistent emergent, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below .5 parts per thousand. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 20 acres; (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of the basin less than 2m at low water; and (4) salinity due to ocean-derived salts less than .5 parts per thousand.

Riverine System - Includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts in excess of .5 parts per thousand.

Scrub-Shrub Wetland - Includes areas dominated by woody vegetation less than 6m (20 feet) tall.

Unconsolidated Bottom - Includes all wetland and deepwater habitats with at least 25% cover of particles smaller than stones, and a vegetative cover less than 30%.

Wetland Hydrology – In general terms, permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the soil.

Hydric Soils – Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

Hydrophytic Vegetation – Plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Wetland Indicator Status – The exclusiveness with which a plant species occurs in wetlands.

Riparian Areas – Lands adjacent to rivers, streams, lakes, ponds and other water bodies. They are transitional between aquatic and upland zones, and as such, contain elements of both aquatic and terrestrial ecosystems. They have high water tables because of their close proximity to aquatic systems, soils that are usually made up of water-carried sediments, and some vegetation that requires free (unbound) water or conditions that are more moist than normal.

III. PROJECT METHODOLOGY

A. Public Involvement

On February 17, 1998, CREST held an initial meeting with the joint City Council and Planning Commission to discuss the Local Wetland Inventory workplan. CREST, with the assistance of the City of Seaside, assembled and reviewed the applicable base maps (assessor maps) in the study area. With the assistance of Mark Barnes, wetland planning consultant, and Larry Potter, Division of State Lands Natural Resources Coordinator, the properties for onsite analysis were identified.

Prior to the first public meeting: public notices were sent to 1,908 property owners within the study area; press kits were assembled and mailed to three local radio stations and two local newspapers; and materials (handouts describing the LWI project) were gathered for the public meeting. The first public meeting was held on April 16, 1998 in Seaside. Approximately 65 property owners attended the meeting. Over two dozen phone calls were received prior the meeting to discuss the project. Several property owners that could not attend the public meeting requested to be placed on a mailing list to receive information/handouts from the meeting.

Landowner notification letters and "request for permission to access property" forms were mailed to the landowners identified for onsite analysis (approximately 90). The identified properties have been marked on the assessor maps with "yes" or "no" based on the landowners' response.

B. Local Wetlands Inventory

1. Routine Off-Site Determination

Before beginning fieldwork, off-site mapping was conducted to determine the approximate location of wetland boundaries based on available information. The information used included USGS topographic quadrangles, the Soil Survey for Clatsop County, Oregon, the National Wetlands Inventory maps, and black and white aerial photographs.

If access to land was permitted, then the wetland boundaries were field checked. If access was not permitted the boundaries were based on the mapping conducted in the office based on the resources mentioned above and, where possible, visual confirmation from nearby public areas and roads.

2. Routine On-Site Determination

Where access to property was granted, on-site observation and inspection of soils, vegetation, and hydrology were made. Soil pits were excavated to a depth of 18 inches in many locations. The soil profiles were examined for indications of hydric soils and wetland hydrology. A visual estimate of percent cover of dominant species in the plant community for a 30-foot radius was conducted at each sampling location. Sampling locations were chosen to document a change in a wetland boundary and a type of plant community visible in the aerial photograph. Data recorded in the field was then electronically entered into data sheets produced on a computer using a word processing program.

Fieldwork was conducted May through August 1998. No wetland boundaries were flagged or marked in any way in the field.

C. Wetland Quality Assessment

The quality of wetlands in the study area was assessed using the *Oregon Freshwater Wetland Assessment Methodology* (OFWAM). The quality of these wetlands is determined by answering specific questions related to six functions and three conditions of each of the wetlands. The functions used in this assessment were Wildlife Habitat, Fish Habitat, Water Quality, Hydrologic Control, Education, and Recreation. The wetland conditions used in the assessment were Aesthetic Quality, Sensitivity to Impact, and Enhancement Potential

D. Riparian Inventory

The quality of riparian areas in the study area was assessed using the *Urban Riparian Inventory and Assessment Guide.*

Riparian Areas are lands that are adjacent to rivers, streams, lakes, ponds and other water bodies. They are transitional between aquatic and upland zones, and as such, contain elements of both aquatic and terrestrial ecosystems. They have high water tables because of their close proximity to aquatic systems, soils that are usually made up of water-carried sediments, and some vegetation that requires free (unbound) water or conditions that are more moist than normal. These areas provide a variety of functions, such as wildlife habitat corridors, flood storage, flood reduction, thermal regulation of adjacent waterways, contribution of large woody debris and organic material to the stream habitat, erosion control and streambank stabilization. During the riparian inventory, physical characteristics and the quality of the riparian corridor were assessed based on the series of qualitative questions provided.

Standard riparian assessment sheets were used to assess the physical characteristics of the riparian area. These physical characteristics included channel width and depth, bank condition, percentage of shade, dominant riparian classification, presence of large woody debris, type of channel substrate, and degree of human modification.

E. Riparian Quality Assessment

The quality of the riparian areas was determined by answering specific questions related to the water quality, flood management, thermal regulation, and wildlife habitat functions of riparian areas. Assessment of high, moderate, or low functional value was determined for each of the functions in the riparian areas. Rationale for the determination of high, moderate, low functional value was given for each determination made. Off-site riparian assessments were based on review of aerial photographs and other available resources.

F. Cartography

Aerial photographs were supplied by the City of Seaside for mapping and for use in fieldwork. The photographs are 1995 black and white and are approximately 1" = 400 feet. Duplicate photographs were obtained for some areas at approximately 1" = 200 feet. Clear acetate was overlaid on the photographs and preliminary wetland boundaries were drawn directly on the acetate in the field. At the completion of the fieldwork the acetate sheets and photographs were registered to a base map using AutoCAD and digitized as a separate data layer.

The base map information was provided by the City of Seaside Engineering Department as a .dwg AutoCAD file. Base map, digital and hard copy, data included the parcel tax lots,

streets, zoning, city limits, UGB, and geographic names. USGS 7.5 minute topographic maps, National Wetland Inventory maps, Oregon Department of Forestry Water Classification maps, Oregon Department of Fish and Wildlife fish presence and absence maps, NRCS soils map, Oregon Estuary Plan Book data, and Clatsop County GIS data were all used for this project. Additional layers added onto the AutoCAD base map include the Necanicum Watershed boundary, streams from Clatsop County GIS data, wetland and riparian boundaries, and wetland codes.

IV. STUDY AREA CHARACTERISTICS

A. Setting

The City of Seaside is located on approximately 2600 acres in Northwest Oregon, along the Pacific Coast. Average elevation is approximately 13 feet above sea level. The closest major city is Astoria (15 miles) and distance to Portland is about 79 miles.

In 1960, the population of Seaside was 3,877. By 1997, the population grew to 6,005. The median age is 39. The city's water system was developed in 1924 and is managed by the City of Seaside. The South Fork of the Necanicum River is the source for the public water supply. The current water treatment plant was built in 1996. The current wastewater treatment collection system was developed in 1939 and then was upgraded in 1985.

U.S. Highway 101 is the nearest major highway, which passes through the city limits. Seaside Municipal Airport provides air service to the city but no railroad service exists.

Much of the city is near a wide sand beach that stretches from Tillamook Head north to the mouth of the Necanicum River. Most of the development along the beachfront is devoted to housing for tourists or amusements for visitors. The Necanicum River winds through the city flowing in a northerly direction and emptying into the Necanicum estuary. Through the central business district, there are many places to view the river from bridges or walkways along the river.

B. Climate

The City of Seaside has a temperate marine climate. The average annual precipitation is approximately 78.51 inches. Approximately 61 inches occurs during the rainy season (October through March) with December being the wettest month with an average precipitation of almost 12.5 inches per year. Snowfall is relatively rare averaging only 2 inches per year.

The average maximum temperature is 59.8^0 F and the average minimum temperature is 43.8^0 F. The warmest months are August and September with average daily maximums of

68.3^0 F and 68.6^0 F respectively. The coolest months are December and January with average daily minimums of 37.8^0 F and 36.9^0 F.

C. Topography

The City of Seaside is on the Pacific coast. Much of the area within the City limits is beach. However, the foothills of the Coastal Range extend close to the Pacific Ocean in this area, so there are streams and rivers flowing out of these hills within City limits. The largest River within the City of Seaside is the Necanicum, which joins the Pacific Ocean in the middle of the City. Therefore, the Necanicum estuary is very visible to the residents of Seaside. Many civic and school activities have been concerned with the Necanicum estuary.

D. Hydrology

Waterbodies within the Urban Growth Boundary include: Necanicum River, Neawanna Creek, Thompson Creek, Coho Creek, Mill Creek, Circle Creek, Shangrila Creek, and Beerman Creek. However, for purposes of this inventory, the watersheds are defined as the Thompson Creek/Stanley Lake system, the Neawanna system, and the Necanicum system.

Drainage Basins and Areas for the City of Seaside Local Wetlands Inventory

Drainage Basin	Wetland Area (acres)
Neawanna	245.37
Necanicum	191.22
Thompson Creek	150.02

E. Soils

The following table identifies the soil types that have been mapped within the City of Seaside study area. The soil map from the Soil Survey is attached to the assessor maps and indicates the location of these soils.

Soils present in the City of Seaside Local Wetland Inventory

Soil Symbol	Soil Name	Hydric Status
4	Beaches	Non-hydric
5A	Bergsvik Mucky Peat, 0-1% slopes	Hydric
6A	Brallier Mucky Pet, 0-1% slopes	Hydric
8A	Brenner Silt Loam, 0-3% slopes	Hydric
11A	Coquille-Clatsop Complex, 0-1%	Hydric

Soil Symbol	Soil Name	Hydric Status
12A	Coquille-Clatsop Complex, protected, 0-1%	Hydric
15	Dune Land	Inclusion of wet soils
16D	Ecola Silt Loam, 3-30% slope	Inclusion of wet soils
16F	Ecola-Templeton Silt Loam, 60-90% slopes	Non-Hydric
19C	Gearhart Fine Sandy Loam, 3-15% slopes	Wet soils
20B	Grindbrook Silt Loam, 0-7% slopes	Poorly drained soils
28	Humitropepts-Troaquepts Complex, 0-20%	Areas of tropaquepts
32D	Klootchie Silt Loam, 3-30% slopes	Inclusion of wet soils
33E	Klootchie-Necanicum complex, 30-60%	Non-Hydric
35B	Knappa silt loam, 0-7% slopes	Inclusion of wet soils
51A	Nehalem Silt Loam, 0-3% slopes	Inclusion of wet soils
52A	Nestucca Silt Loan, 0-3% slopes	Inclusion of poorly drained soils
58D	Skipanon gravelly silt loam, 3-30% slopes	Inclusion of wet soils
70C	Waldport Fine Sand, 3-15% slopes	Inclusion of wet soils
71B	Walluski Silt Loam, 0-7% slopes	Inclusion of wet soils
72A	Warrenton Loamy Fine Sand, 0-3% slopes	Hydric

Bergsvik mucky peat consists of very deep, very poorly drained organic soils in depressional areas between coastal dunes and between the dunes and the adjacent hills. These soils formed in partially decomposed wood and herbaceous plant material underlain by sand. Typically, the surface is covered with a mat of leaves, twigs, moss, roots, and other woody material. The surface layer to about four inches is a dark reddish brown mucky peat with many very fine roots. The next layer to about fifteen inches is a black mucky peat. The subsoil to thirty-two inches is a very dark grayish brown.

Brallier mucky peat consists of very deep, very poorly drained organic soils on floodplains and in depressional areas between coastal dunes and toe slopes. These soils formed in partially decomposed wood and herbaceous plant material. The surface layer to a depth of 26 inches is a very dark grayish brown mucky peat with many fine and medium roots. The substratum layer to a depth of 60 inches is dark brown mucky peat.

Brenner silt loam consists of very deep, poorly drained soils on nearly level floodplains. These soils formed in mixed alluvium. The surface layer to 10 inches consists of a dark brown silt loam with many yellowish red mottles. The next layer is about two inches thick and a grayish brown silty clay loam. The subsoil is a grayish brown silty clay loam to 30 inches with prominent reddish yellow mottles.

Coquille-Clatsop Complex consists of a very deep, very poorly drained soils on floodplains influenced by tides. These soils formed in alluvium. Coquille soil has a surface layer of very dark gray silt loam to a depth of 6 inches. The subsoil is a dark grayish brown, mottled silt loam to approximately 30 inches. The substratum is a dark gray silt loam to a depth of 60 inches. Clatsop soil has a surface layer of very dark grayish brown

muck to a depth of 6 inches. The subsoil is a very dark grayish brown and dark gray silt loam to approximately 24 inches. The substratum is a very dark gray silt loam to a depth of 60 inches.

Coquille-Clatsop Complex, protected, consists of a very deep, very poorly drained soils on floodplains influenced by tides. These soils formed in alluvium. Coquille soil has a surface layer of very dark gray silt loam to a depth of 6 inches. The subsoil is a dark grayish brown, mottled silt loam to approximately 30 inches. The substratum is a dark gray silt loam to a depth of 60 inches. Clatsop soil has a surface layer of very dark grayish brown muck to a depth of 6 inches. The subsoil is a very dark grayish brown and dark gray silt loam to approximately 24 inches. The substratum is a very dark gray silt loam to a depth of 60 inches.

Ecola Silt Loam, 3 to 30 percent slopes consists of moderately deep, well-drained soils on mountains. These soils formed in colluvium derived dominantly from sedimentary rock. The surface is covered with a three-inch mat of twigs, moss, and roots. The first seven inches is a very dark grayish brown silt loam with many fine, medium, and coarse roots. The next layer to approximately 16 inches is a dark brown silty clay loam with fine roots. The substratum to 37 inches is a dark yellowish brown silty clay loam with few fine roots.

Ecola-Templeton Silt Loam, 60 to 90 percent slopes consists of moderately deep, well-drained soils on mountains. These soils formed in colluvium derived from sedimentary rock and siltstone. This soil has a composition of approximately 50 percent Ecola soil, 35 percent Templeton soil, and 15 percent other. The surface is covered with a three-inch mat of twigs, moss, and roots. The first seven inches is a very dark grayish brown silt loam with many fine, medium, and coarse roots. The next layer to approximately 16 inches is a dark brown silty clay loam with fine roots. The substratum to 37 inches is a dark yellowish brown silty clay loam with few fine roots.

Gearhart Fine Sandy Loam, 3 to 15 percent slopes consists of very deep, somewhat excessively drained soils on stabilized sand dunes. The surface is covered with a one-inch thickness of leaves, twigs, moss, and needles. The surface layer is black fine sandy loam approximately 11 inches thick. The next five inches are dark brown loamy fine sand. The substratum to 45 inches is dark gray fine sand.

Grindbrook Silt Loam, 0 to 7 percent slopes consists of a deep and very deep, moderately well drained soils on terraces. These soils formed in mixed alluvium. An organic mat one-inch thick of moss, needles, and twigs covers the surface. The surface layer to 15 inches is a black to very dark brown silt loam. The next layer 15 to 28 inches is a dark brown silt loam. The substratum layer to 60 inches is a brown and gray, mottled silty clay loam.

Humitropepts-Tropaquepts Complex, 0 to 20 percent slopes consists of 45 percent Humitropepts, 40 percent Tropaquepts, and 15 percent contrasting inclusions. The

Humitropepts has an organic mat one-inch thick of moss, needles, and twigs with a surface layer of 17 inches consisting of very dark brown and very dark grayish brown silt loam. The subsoil to about 44 inches thick is a dark yellowish brown silt loam. The substratum layer is a dark yellowish brown very gravelly loam. The Tropaquepts has a surface layer of very dark brown and very dark grayish brown silt loam 11 inches thick. The next nine inches are a grayish brown, mottled silt loam. The subsoil to a depth of 54 inches is a light brownish gray, mottled silty clay loam. The substratum is a dark bluish gray, mottled silty clay loam to 60 inches.

Klootchie Silt Loam, 3 to 30 percent slopes consists of deep, well-drained soils in mountainous areas formed in colluvium derived from basalt. A two-inch organic mat of moss, needles, and twigs covers the surface. The surface layer is a dark reddish brown silt loam approximately 12 inches deep. The next layer to about 25 inches is a reddish brown silt loam. The subsoil to a depth of 43 inches is a reddish brown gravelly loam. The substratum is weathered basalt.

Klootchie-Necanicum complex, 30 to 60 percent slopes consists of 50 percent Klootchie soil, 30 percent Necanicum soil, and 20 percent contrasting soils. Both soil types have a two-inch organic mat of moss, needles, and twigs covering the surface. The surface layer of the Klootchie soil is a dark reddish brown silt loam approximately 12 inches deep. The next layer to about 25 inches is a reddish brown silt loam. The subsoil to a depth of 43 inches is a reddish brown gravelly loam. The substratum is weathered basalt. The surface layer of the Necanicum soil is a dark reddish brown gravelly loam approximately 12 inches deep. The next layer to about 35 inches is a dark brown and dark yellowish brown very gravelly loam. The subsoil to a depth of 48 inches is a yellowish brown extremely cobbly loam. The substratum is basalt.

Knappa silt loam, 0 to 7 percent slopes consists of very deep, well-drained soils on terraces. These soils formed in mixed alluvium. An organic mat of moss, needles, and twigs one inch thick covers the surface. The surface layer to approximately 23 inches is a very dark brown, very dark grayish brown and dark brown silt loam. The substratum to a depth of 60 inches is a dark yellowish brown silty clay loam.

Nehalem Silt Loam, 0 to 3 percent slopes consists of very deep, well-drained soils on floodplains. These soils formed in alluvium. The surface layer to a depth of approximately 14 inches is a dark brown silt loam. The subsoil is a dark yellowish brown silt loam to a depth of 48 inches. The substratum to a depth of 60 inches is a brown silty clay loam.

Nestucca Silt Loam, 0 to 3 percent slopes consists of very deep, somewhat poorly drained soils on floodplains. These soils formed in mixed alluvium. The surface layer is dark brown silt loam to a depth of approximately 16 inches. The subsoil to a depth of approximately 32 inches is a dark grayish brown, mottled silt loam. The substratum to a depth of 60 inches is a grayish brown, mottled silty clay loam.

Skipanon gravelly silt loam, 3 to 30 percent slopes consists of deep, well-drained soils in mountainous areas that formed in mixed colluvium. An organic mat of moss, needles, and twigs two inches thick covers the surface. The surface layer to approximately 19 inches is a dark brown gravelly silt loam. The subsoil is brown cobbly silt loam to a depth of 32 inches thick. The next layer is variegated light yellowish brown and yellowish brown silty clay loam to depth of approximately 53 inches. Weathered siltstone is at a depth of 53 inches.

Waldport Fine Sand, 3 to 15 percent slopes consists of very deep, excessively drained soils on stabilized sand dunes. These soils formed in dune sand. The surface layer to a depth of approximately five inches is very dark brown and dark brown fine sand. The subsoil is pale brown fine sand to a depth of approximately 15 inches. The substratum to a depth of 60 inches is light brownish gray fine sand.

Walluski Silt Loam, 0 to 7 percent slopes consists of very deep, moderately well drained soils on terraces. These soils formed in silty alluvium. An organic one-inch mat of moss, needles, and twigs covers the surface. The surface layer is a very dark grayish brown silty loam approximately 14 inches thick. The subsoil to a depth of approximately 21 inches is a dark brown silt loam. The substratum is a dark yellowish brown, yellow brown and light brownish gray, mottled silty clay loam.

Warrenton Loamy Fine Sand, 0 to 3 percent slopes consists of very deep, very poorly drained soil on long, narrow interdunal areas. These soils formed in sand. An organic three-inch mat of moss, leaves, needles, and twigs covers the surface. The surface layer is very black loamy fine sand approximately 11 inches thick. The subsoil to a depth of approximately 22 inches is very dark gray, mottled loamy fine sand. The substratum is very dark gray, mottled fine sand.

F. Vegetation

The US Fish and Wildlife *National List of Plant Species that Occur in Wetlands: Northwest Region 9* has established different categories for indicating the frequency specific vegetation occurs in a wetland. These "indicator code status" includes the following: obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL).

Indicator Categories

Obligate Wetland (OBL)	Occur almost always (estimated probability >99%) under natural conditions in wetlands.
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in nonwetlands.

Facultative (FAC) — Equally likely to occur in wetlands or nonwetlands (estimated probability 34%-66%).

Facultative Upland (FACU) — Usually occur in nonwetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).

Obligate Upland (UPL) — Occur almost always (estimated probability >99%) under natural conditions in nonwetlands.

No Indicator (NI) — Insufficient information was available to determine an indicator status.

The following table identifies dominant wetland and upland vegetation that was inventoried within the study area.

Plant Species within the City of Seaside Local Wetlands Inventory Study Area

Herbs	Common name	Status
Agrostis alba	Bentgrass	FACW
Athyrium filix-femina	lady fern	FAC
Atriplex patula	Saltbush	FACW
Carex lyngbei	Lyngby's sedge	OBL
Carex obnupta	slough sedge	OBL
Convolvulus arvense	Morning glory	UPL
Daucus carota	Queen Anne's lace	UPL
Digitalis purpurea	Foxglove	UPL
Distichlys spicata	Saltgrass	FACW
Elocharis palustris	Spikerush	OBL
Festuca rubra	red fescue	FAC
Juncus effusus	soft rush	FACW
Lotus formosissimus	seaside lotus	FACW+
Lotus pinnatus	Deervetch	FACW
Lysichitum americanum	yellow skunk cabbage	OBL
Maianthemum dilatatum	false lily of the valley	FACU -
Oenanthe sarmentoca	water parsley	OBL
Phalaris arundinacea	reed canary grass	FACW
Polystichum munitum	sword fern	FACU
Potentilla anserina	Pacific silverweed	OBL
Pteridium aquilinum	Bracken fern	FACU
Ranunculus occidentalis	western buttercup	FACW

Herbs (cont'd)	Common name	Status
Ranunculus repens	Creeping buttercup	FACW
Rumex crispus	curly dock	FAC+
Salicornia virginica	Pickleweed	OBL
Scirpus microcarpus	small fruit bulrush	OBL
Scirpus validus	soft term bulrush	OBL
Triglochin maritimum	seaside arrow grass	OBL
Trifolium wormskjoldii	cows clover	FACW
Veronica americana	American speedwell	OBL
Vicia americana	Vetch	FAC

Shrubs/vines	Common name	Status
Baccharis douglasii	Douglas false willow	OBL
Cytisus scoparius	Scot's broom	UPL
Malus fusca	Pacific crabapple	FACW
Rubus discolor	Himalayan blackberry	FACU
Rubus spectabilis	Salmonberry	FACU
Salix hookeriana	Hooker willow	FACW-
Salix sitchensis	sitka willow	FACW
Sambucus racemosa	red elderberry	FACU
Spirea douglasii	Douglas spirea	FACW

Trees	Common name	Status
Alnus rubra	red alder	FAC
Picea sitchensis	sitka spruce	FAC
Pseudotsuga menziesii	Douglas fir	UPL
Salix lasiandra	Pacific willow	FACW+

V. LWI Discussion and Conclusions

A total of sixteen wetlands were identified in the project area: four in the Neawanna basin, eight in the Necanicum basin, and four in the Thompson Creek/Stanley Lake basin. The total wetland acreage is approximately 587 acres. Five of the wetlands were determined on-site, the rest were off-site determinations. Only four of the wetlands assessed are smaller than 5 acres.

Wetland Classifications and Acreages within the City of Seaside LWI Study Area

Wetland Code	USFWS Wetland Classification							Total Acreage
	E2EM	E2FO	PEM	PFO	PSS	PUB	PAB	
NEA - 1	5.31	-	-	-	-	-	-	5.31
NEA - 2	10.43	-	-	-	-	-	-	10.43
NEA - 3	12.34	0.64	-	2.50	-	-	-	15.48
NEA - 4	3.58	-	49.49	137.77	11.73	10.2	1.38	214.15
NEC - 1	7.09	-	-	-	4.36	-	-	11.45
NEC - 2	7.17	0.57	-	-	0.92	-	-	8.66
NEC - 3	-	-	-	-	1.52	-	-	1.52
NEC - 4	-	-	-	-	-	1.15	-	1.15
NEC - 5	-	-	-	0.4	2.57	-	-	2.97
NEC - 6	-	-	-	7.89	-	-	-	7.89
NEC - 7	-	-	29.71	122.86	3.79	-	-	156.36
NEC - 8	-	-	1.22	-	-	-	-	1.22
TC - 1	-	-	31.84	22.56	6.55	1.61	2.02	64.58
TC - 2	-	-	22.78	-	-	-	-	22.78
TC - 3	-	-	10.21	17.27	-	-	-	27.48
TC - 4	-	-	2.64	31.74	0.80	-	-	35.18
Total	45.92	1.21	147.89	342.99	32.24	12.96	3.40	586.61

Wetland classification		**Acres**	**Percent**
E2EM	Estuarine intertidal emergent	45.92	8%
E2FO	Estuarine intertidal forested	1.21	<1%
PEM	Palustrine emergent	147.89	25%
PFO	Palustrine forested	342.99	58%
PSS	Palustrine scrub-shrub	32.24	5%
PUB	Palustrine unconsolidated bottom	12.96	2%
PAB	Palustrine aquatic bed	3.40	<1%
	Total Wetland Area:	**586.61**	
	Study Area:	**2597.21**	

The largest wetland is NEA-4, which has 214.15 acres. This wetland is an intact system that extends the entire length of east Seaside. The largest wetland community is the palustrine forest with 342.99 acres or 58% of the wetlands in Seaside. Appendix B includes a wetland characterization sheet for each inventoried wetland.

An assessment of the quality of each of the sixteen wetlands identified through the inventory was conducted using the *Oregon Freshwater Assessment Methodology* (OFWAM). OFWAM assesses six functions and three conditions. Appendix C includes the results for each of the wetlands assessed by the methodology.

Wetland **NEA-1** provides diverse habitat for wildlife. The fish habitat, water quality, and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has moderate enhancement potential. NEA-1 also has the potential to provide educational and recreational opportunities and was judged to be "moderately pleasing".

Wetland **NEA-2** provides some habitat for wildlife. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEA-2 has the potential to provide recreational opportunities and was judged to be "moderately pleasing".

Wetland **NEA-3** provides some habitat for wildlife. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEA-3 has the potential to provide educational and recreational opportunities and was judged to be "moderately pleasing".

Wetland **NEA-4** provides diverse habitat for wildlife. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEA-4 has the potential to provide educational and recreational opportunities and was judged to be aesthetically "pleasing".

Wetland **NEC-1** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEC-1 has the potential to provide educational and recreational opportunities and was judged to be aesthetically "not pleasing".

Wetland **NEC-2** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEC-2 has the potential to provide educational and recreational opportunities and was judged to be aesthetically "moderately pleasing".

Wetland **NEC-3** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential.

NEC-3 is not appropriate for educational and recreational uses and was judged to be aesthetically "not pleasing".

Wetland **NEC-4** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEC-4 is not appropriate for educational and recreational uses and was judged to be aesthetically "not pleasing".

Wetland **NEC-5** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEC-5 has potential to provide for educational and recreational uses and was judged to be aesthetically "moderately pleasing".

Wetland **NEC-6** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. NEC-6 has potential to provide for educational and recreational uses.

Wetland **NEC-7** provides diverse habitat for wildlife species. The fish habitat is intact. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has moderate enhancement potential. NEC-7 has potential to provide for educational and recreational uses.

Wetland **NEC-8** provides diverse habitat for wildlife species. The fish habitat is nonexistent. The water quality function is judged to be intact and hydrological control functions are impacted. This wetland is potentially sensitive to future impacts and has moderate enhancement potential. NEC-8 is not appropriate for educational and recreational uses.

Wetland **TC-1** provides diverse habitat for wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. TC-1 has potential to provide for educational and recreational uses and was judged to be aesthetically "pleasing".

Wetland **TC-2** provides habitat for some wildlife species. The fish habitat is impacted or degraded. The water quality and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. TC-2 has potential to provide for educational and recreational uses.

Wetland **TC-3** provides habitat for some wildlife species. The fish habitat is nonexistent. The water quality and hydrological control functions are judged to be intact. This wetland

is potentially sensitive to future impacts and has high enhancement potential. TC-3 has potential to provide for educational and recreational uses.

Wetland **TC-4** provides diverse habitat for wildlife species. The fish habitat is intact. The water quality functions are impacted or degraded and hydrological control functions are judged to be intact. This wetland is potentially sensitive to future impacts and has high enhancement potential. TC-4 has potential to provide for educational and recreational uses.

VI. Riparian Discussion and Conclusions

Riparian inventory was used to assess the quality of the riparian corridors. Several questions were answered relating to the riparian functions. These functions include: water quality, flood management, thermal regulation, and wildlife habitat.

Riparian areas were assessed with a combination of on-site observation, aerial photographs, and the USGS topographic maps. The riparian area was measured both on-site and on the aerial from the top of the bank to a break in slope. The results of the riparian inventory are found in Appendix D and the results of the riparian assessment are found in Appendix E.

Many of the wetlands within the Neawanna system do not have riparian corridors due to the development (residential) surrounding the Neawanna system. Often, a road embankment is located adjacent to the wetland with little or no vegetated buffer. The Necanicum system is bordered by residential and commercial development with sparse fifteen-foot buffers in limited locations. Some reaches of the Necanicum, south of Avenue U, have a vegetated buffer of scrub-shrub or palustrine forest to the waters edge. However, this 20-25 foot buffer has been calculated and assessed with the wetland inventory. These areas were not included with the riparian inventory assessment to maintain consistency by not double calculating wetland areas.

Four riparian assessments were conducted in the project area. Riparian areas are not abundant within Seaside. The limited riparian assessments are due to the fact that most of the riparian areas are attached to a wetland. Each riparian area was designated as CSR- and numbered consecutively from north to south.

Riparian Functional Area Summary Table

Riparian Code	Riparian Reach Length (ft)	Riparian Width (ft)	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
CSR-1	1000	20	moderate	moderate	moderate	moderate
CSR-2	250	20	moderate	moderate	moderate	low
CSR-3	300	20	high	high	moderate	moderate
CSR-4	370	70	moderate	moderate	moderate	moderate

CSR-1 has moderate value water quality, flood management, thermal regulation, and wildlife habitat functions. It is surrounded by roads and development, is channelized, and is not well shaded.

CSR-2 has moderate value water quality, flood management, and thermal regulation functions. It has low value wildlife functions. It is adjacent to downtown development and substantial amounts of impervious surface, it is very channelized, and is not shaded by vegetation.

CSR-3 has high value water quality and flood management. It is surrounded by emergent marsh. The thermal regulation and wildlife habitat values are moderate. There is no shade provided and there is a lack of woody debris.

CSR-4 has moderate value water quality, flood management, thermal regulation, and wildlife habitat functions. It has riprap as well as herbaceous vegetation, no shade is provided, and it is surrounded by residential development.

VII. Resources

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U.S. Geological Survey topographic map (Gearhart and Tillamook, OR, 1:24,000, 7.5-minute quadrangle)

SEASIDE LOCAL WETLAND & RIPARIAN INVENTORY MAPS

Index Map Sheet

Note: Drawing is not to scale
Map is for planning purposes only

City of Seaside
Local Wetlands Inventory

Seaside, Oregon

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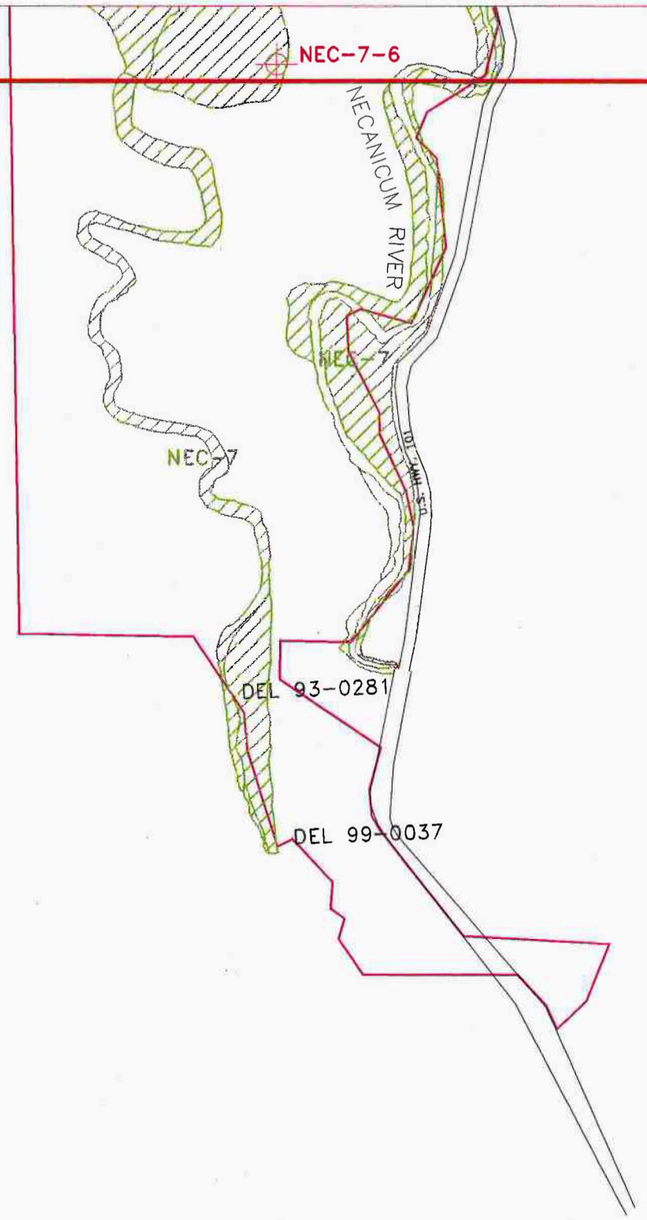
MATCHLINE SHEET 3

MATCHLINE SHEET 4



NOTE:
INFORMATION SHOWN ON THIS MAP IS FOR PLANNING PURPOSES AND ALL WETLAND BOUNDARIES ARE APPROXIMATE. IN ALL CASES, ACTUAL FIELD CONDITIONS DETERMINE WETLAND BOUNDARIES. THERE MAY BE UNMAPPED WETLANDS SUBJECT TO REGULATION.

400' 0' 400' 800' 1600'

NORTH

Legend

NEC-1	Wetland Code		On Site Wetland Determination
TC-1-9	Wetland Sample Site		Off Site Wetland Determination
CSR-4	Riparian Sample Site	DEL 97-0205	Wetland Delineation
	Riparian Sample Reach		Project Boundary

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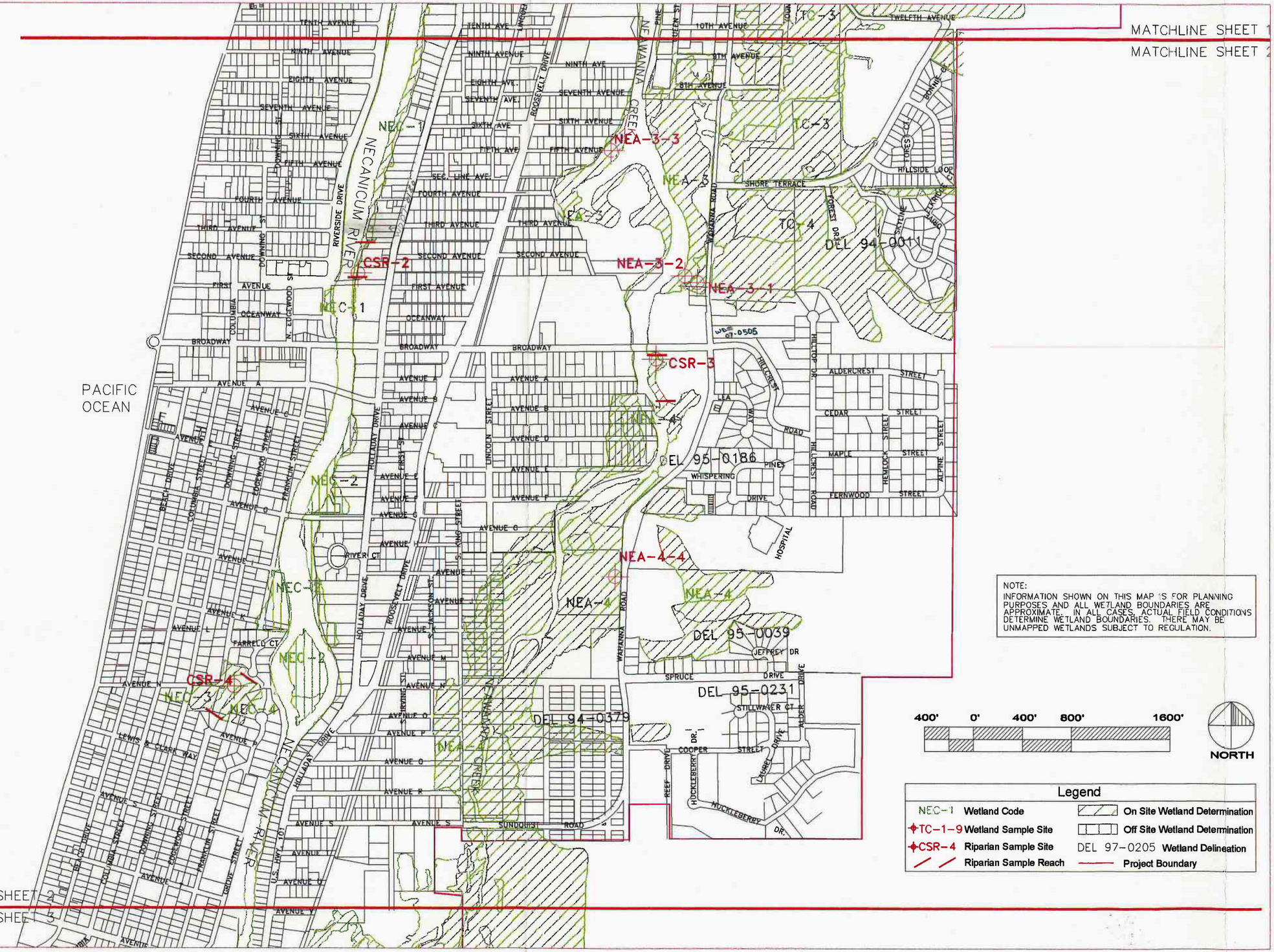
City of Seaside
Local Wetlands Inventory

Seaside, Oregon

Date: September 2000

Sheet: 4 of 4



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400' 0' 400' 800' 1600'

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Legend

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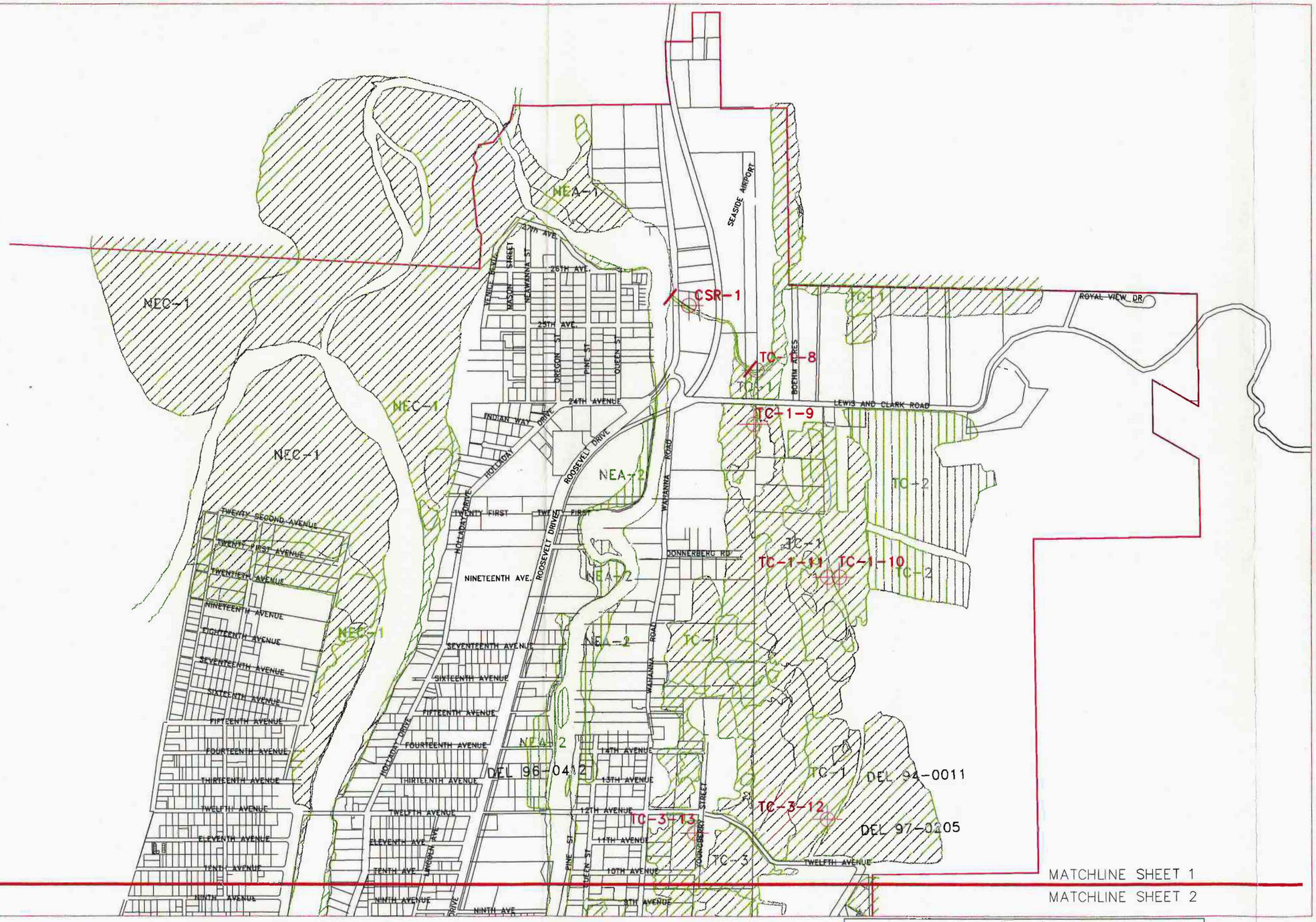
City of Seaside
Local Wetlands Inventory

Seaside, Oregon

Date: September 2000

Sheet: 2 of 4



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400' 0' 400' 800' 1600'

NORTH

Legend

NEC-1 Wetland Code	On Site Wetland Determination
TC-1-9 Wetland Sample Site	Off Site Wetland Determination
CSR-4 Riparian Sample Site	DEL 97-0205 Wetland Delineation
Riparian Sample Reach	Project Boundary

City of Seaside
Local Wetlands Inventory

Seaside, Oregon

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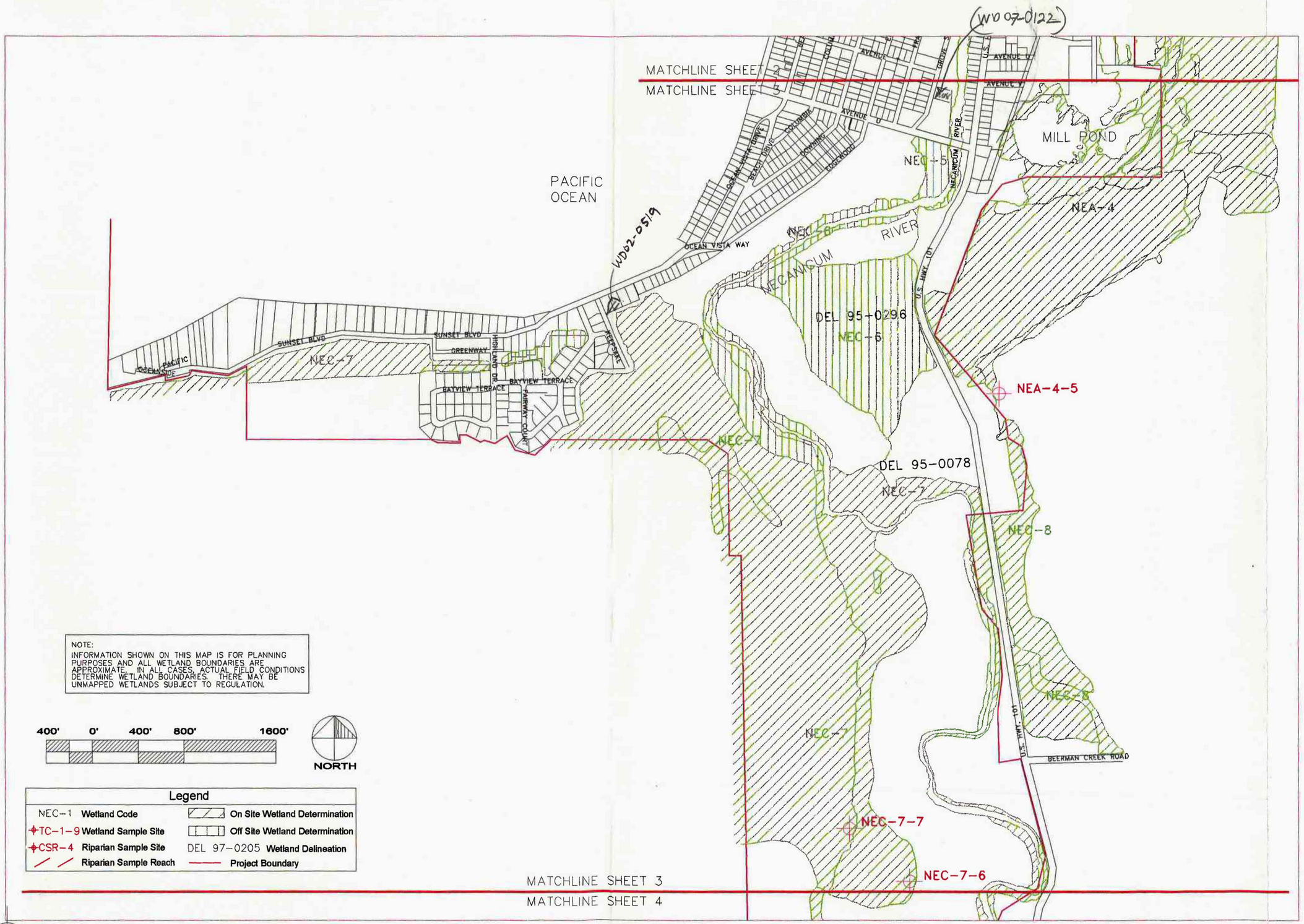

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NORTH

Legend			
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City of Seaside
Local Wetlands Inventory

Seaside, Oregon

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APPENDIX A

WETLAND DETERMINATION DATA FORMS

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 22BA
Date: 23 Jun 98	Investigator(s): KLT/KMT	Sample Site: NEA-3-1

HYDROLOGY

Inundated (Yes/No):	Yes	Water marks:	Yes
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	0 Inches	Drainage patterns:	
Oxidized rhizospheres:	No	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Coquille, Clatsop complex protected — On Hydric Soils list?: Yes

Classification: Histic Tropaquepts — Drainage Class: poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations: Color	Redox Concentrations: abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-6	Oa	2.5Y 3/2	SL				
6-14	Ag	2.5Y 3/3	SL				
14-18	Cg	2.5Y 3/1	SL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (0%)	Status	% Cover

Shrub Stratum (0%)	Status	% Cover

Herbaceous Stratum (100%)	Status	% Cover
Agrostis alba	FACW	40%
Carex obnupta	OBL	30%
Juncus effusus	FACW+	15%
Scirpus validus	OBL	10%
Triglochinmaritimum	OBL	5%

Woody Vine Stratum (0%)	Status	% Cover

Percent of dominant species FAC, FACW, or OBL: 100%

Criteria Met: YES

Comments: The edge of this wetland is defined by the west bank of Wahanna Road.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 22BA
Date: 23 Jun 98	Investigator(s): KLT/KMT	Sample Site: NEA-3-2

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	Yes
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizospheres:	Yes	Sediment deposits:	No
Other:			

Criteria Met: YES

SOILS

Mapped Series: Gearhart Fine Sandy Loam On Hydric Soils list?: Yes
Classification: Typic Dystropepts Drainage Class: excessively drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
-1-0							roots, leaves
0-12	A	10YR 3/1	SDL				
12-18	Bw	7.5YR 5/4	SDL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (60%)	Status	% Cover
Picea sitchensis	FAC	100%

Shrub Stratum (5%)	Status	% Cover
Spiraea douglasii	OBL	65%
Cytisus scoparius	UPL	35%

Herbaceous Stratum (35%)	Status	% Cover
Maianthemum dilatatum	FACU-	60%
Potentilla anserina	OBL	30%
Vicia Americana	FAC	10%

Woody Vine Stratum (0%)	Status	% Cover

Percent of dominant species FAC, FACW, or OBL: 66%

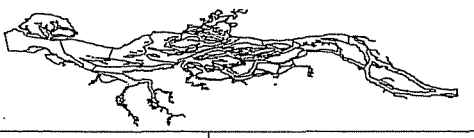
Criteria Met: YES

Comments: Disturbed site. Upper four inches of soil is mostly dense roots. The edge of this wetland is defined by the west bank of Wahanna Road.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15CC
Date: 23 Jun 98	Investigator(s): KLT/KMT	Sample Site: NEA-3-3

HYDROLOGY

Inundated (Yes/No):	Yes	Water marks:	Yes
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	0 Inches	Drainage patterns:	
Oxidized rhizospheres:	No	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Coquille, Clatsop complex protected — On Hydric Soils list?: Yes
Classification: Histic Tropaquepts — Drainage Class: poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-6	Oa	2.5Y 3/2	SL				
6-14	Ag	2.5Y 3/3	SL				
14-18	Cg	2.5Y 3/1	SL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (0%)	Status	% Cover	Herbaceous Stratum (100%)	Status	% Cover
			Agrostis alba	FACW	10%
			Carex obnupta	OBL	85%
			Triglochin maritimum	OBL	5%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (0%)**	**Status**	**% Cover**

Percent of dominant species FAC, FACW, or OBL: 100%

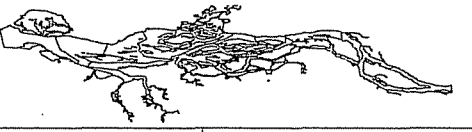
Criteria Met: YES

Comments: Tidally influenced. Site located across from (north of) last house in trailer park. The edge of this wetland is defined by the east end of 5th Avenue.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 22
Date: 18 May 98	Investigator(s): KLT/KMT	Sample Site: NEA-4-4

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	Yes
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizospheres:	Yes	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Coquille, Clatsop complex — On Hydric Soils list?: Yes
Classification: Aeric Tropic Fluvaquent — Drainage Class: poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-6	A	10YR 3/1	SL				
6-18	C1	10YR 4/2	SL	10YR 4/6	5%		

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (5%)	Status	% Cover
Picea sitchensis	FAC	100%

Shrub Stratum (0%)	Status	% Cover

Herbaceous Stratum (95%)	Status	% Cover
Eleocharispalustris	OBL	75%
Potentilla anserina	OBL	5%
Carex lyngbei	OBL	10%
Juncus effusus	FACW	5%
Scirpus validus	OBL	5%

Woody Vine Stratum (0%)	Status	% Cover

Percent of dominant species FAC, FACW, or OBL: 100%

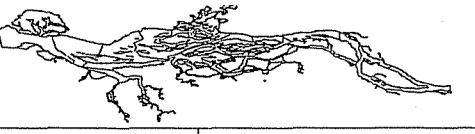
Criteria Met: YES

Comments: Located on the East Bank of the Neawanna Creek. Smooth water-worn 1 to 4 inch cobblestones. Bordered by the creek on one side and Wahanna Road on the other side.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 28
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: NEA-4-5

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	
Depth of saturation:	0 Inches	Drift lines:	Yes
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizospheres:	Yes	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Brenner silt loam, 0-3% slope On Hydric Soils list?: Yes
Classification: Aeric Tropaquepts Drainage Class: very poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
1-0			leaves				fine roots
0-8	Ap	10YR 3/2	SL	10YR 4/4			
8-12	Bg1	10YR 5/2	SCL	10YR 4/1			
12-18	Bg2	10YR 5/2	SCL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (60%)	Status	% Cover	Herbaceous Stratum (40%)	Status	% Cover
Salix lasiandra	FACW+		*Lysichitum americanum*	OBL	5%
			Carex obnupta	OBL	50%
			Rubus spectabilis	FAC+	25%
			Polystichum munitum	FACU	5%
			Pteridium aquilinum	FACU	15%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (0%)**	**Status**	**% Cover**

Percent of dominant species FAC, FACW, or OBL: 66%

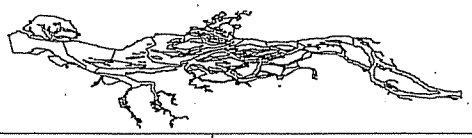
Criteria Met: YES

Comments: Adjacent to power lines. Highway obstructs the overflow from the Necanicum River. Big woody roots in top 5 inches.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 33
Date: 29 Jun 98	Investigator(s): KLT/KMT	Sample Site: NEC-7-6

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	No
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizosopheres:	No	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Brenner silt loam, 0-3% slope — On Hydric Soils list?: Yes
Classification: Aeric Tropaquepts — Drainage Class: poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-10	Ap	10YR 3/3	SL	10YR 5/1	few		
10-13	Bg1	10YR 4/4	SCL	10YR 5/8	many		
13-18	Bg2	2.5Y 5/2	SCL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (0%)	Status	% Cover	Herbaceous Stratum (100%)	Status	% Cover
			Juncus effusus	FACW	70%
			Lotus pinnatus	FACW	20%
			Ranunculus occidentalis	FACW	10%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (0%)**	**Status**	**% Cover**

Percent of dominant species FAC, FACW, or OBL: 100%

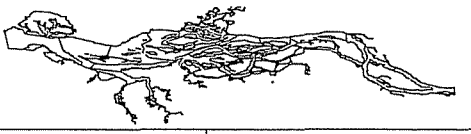
Criteria Met: YES

Comments: Patureland in active use. Seasonally flooded.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 33
Date: 29 Jun 98	Investigator(s): KLT/KMT	Sample Site: NEC-7-7

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	Yes
Depth of saturation:	Inches	Drift lines:	Yes
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizospheres:	Yes	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Brenner silt loam, 0-3% slope On Hydric Soils list?: Yes
Classification: Aeric Tropaquepts Drainage Class: poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-10	Ap	10YR 3/2	SL				
10-12	Bg1	10YR 5/2	SCL	10YR 5/8	med, 20%		
12-18	Bg2	2.5Y 5/2	SCL	5YR 4/6	med, 30%		

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (40%)	Status	% Cover	Herbaceous Stratum (10%)	Status	% Cover
Alnus rubra	FAC	70%	*Lysichitum americanum*	OBL	20%
Pseudotsuga menziesii	UPL	30%	*Carex obnupta*	OBL	20%
			Ranunculus repens	FACW	60%
Shrub Stratum (10%)	**Status**	**% Cover**	**Woody Vine Stratum (40%)**	**Status**	**% Cover**
Rubus spectabilis	FAC	100%	*Rubus discolor*	FACU	100%

Percent of dominant species FAC, FACW, or OBL: 71%

Criteria Met: YES

Comments: Forested area adjacent to farm that is seasonally flooded. This forested wetland is surrounded by pastureland.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 10D
Date: 19 Jun 98	Investigator(s): KLT/KMT	Sample Site: TC-1-8

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	
Depth of saturation:	Inches	Drift lines:	No
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizospheres:	Yes	Sediment deposits:	No

Other: within 20 ft of creek

Criteria Met: YES

SOILS

Mapped Series: Gearhart Fine Sandy Loam On Hydric Soils list?: Yes/inclusions)

Classification: Typic Dystropepts Drainage Class: excessively drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
-1-0							plant roots
0-10	A	10YR 3/1	SDL				
10-16	Bw	7.5YR 4/4	SDL	2.5YR 4/3	few,diffuse		
16-18	C1	10YR 4/2	SD				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (0%)	Status	% Cover	Herbaceous Stratum (100%)	Status	% Cover
			Atriplex patula	FACW	30%
			Potentilla anserina	OBL	20%
			Juncus effusus	FACW	25%
			Salicorniavirginica	OBL	25%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (0%)**	**Status**	**% Cover**

Percent of dominant species FAC, FACW, or OBL: 100%

Criteria Met: YES

Comments: South of East runway, within 20'of the East Mill Creek fork. North of Lewis and Clark Road. This wetland is bordered by the airport runway.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: TC-1-9

HYDROLOGY

Inundated (Yes/No): No
Depth of saturation: 0 Inches
Depth to free water: 10 Inches
Oxidized rhizospheres: Yes
Other:

Water marks:
Drift lines: Yes
Drainage patterns:
Sediment deposits:

Criteria Met: YES

SOILS

Mapped Series: Warrenton loamy fine sand, 0 to 3% slope
On Hydric Soils list?: Yes
Classification: Typic Tropaquept
Drainage Class: excessively drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
-2-0							roots
0-10	A	2.5Y2.5/1	SDL				
10-18	Cg1	2.5Y3/1	SDL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (15%)	Status	% Cover	Herbaceous Stratum (85%)	Status	% Cover
Alnus rubra	FAC	100%	*Eleocharis palustris*	OBL	35%
			Lotus formosissimus	FACW+	5%
			Juncus effusus	FACW	10%
			Rumex crispus	FAC+	5%
			Veronica americana	OBL	10%
			Scirpus microcarpus	OBL	35%
Shrub Stratum (0 %)	**Status**	**% Cover**			
			Woody Vine Stratum (0%)	**Status**	**% Cover**

Percent of dominant species FAC, FACW, or OBL: 100%

Criteria Met: YES

Comments: Site is adjacent to a stream (soil pit approximately 1 meter SE of stream).

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: TC-1-10

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	No
Depth of saturation:	Inches	Drift lines:	
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizosopheres:	No	Sediment deposits:	
Other:			

Criteria Met: NO

SOILS

Mapped Series: Brallier mucky peat, 0 to 1 percent slopes
On Hydric Soils list?: Yes
Classification: Typic Trophemists Drainage Class: very poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
-2-0							roots, grass
0-7	Oe1	10YR3/3	SD				
7-18	Oe2	10YR5/4	SD				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: NO

VEGETATION

Tree Stratum (0%)	Status	% Cover	Herbaceous Stratum (60%)	Status	% Cover
			Lotus formosissimus	FACW+	5%
			Juncus effusus	FACW	20%
			Cytisus scoparius	UPL	75%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (40%)**	**Status**	**% Cover**
			Rubus discolor	FACU-	100%

Percent of dominant species FAC, FACW, or OBL: 50%

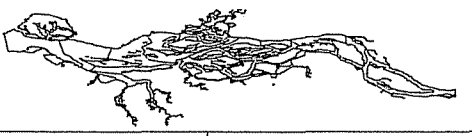
Criteria Met: NO

Comments: Disturbed site. Topsoil first seven inches. Filled area inside a berm.

Determination: Upland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: TC-1-11

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	No
Depth of saturation:	Inches	Drift lines:	
Depth to free water:	>18 Inches	Drainage patterns:	
Oxidized rhizosopheres:	No	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Brallier mucky peat, 0 to 1 percent slopes
On Hydric Soils list?: Yes
Classification: Typic Tropohemists Drainage Class: very poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations: Color	Redox Concentrations: abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
-3-0							roots
0-5	Oe1	10YR3/2	SD				
5-18	Oe2	5YR4/2	SD	10YR5/6	25%		

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (60%)	Status	% Cover	Herbaceous Stratum (30%)	Status	% Cover
Alnus rubra	FAC	90%	*Carex obnupta*	OBL	5%
Picea sitchensis	FAC	10%	*Rubus spectabilis*	FAC+	30%
			Lysichitum americanum	OBL	40%
			Sambucus racemosa	FAC+	10%
			Pteridium aquilinum	FACU	15%
Shrub Stratum (0%)	**Status**	**% Cover**	**Woody Vine Stratum (10%)**	**Status**	**% Cover**
			Rubus discolor	FACU-	100%

Percent of dominant species FAC, FACW, or OBL: 75%

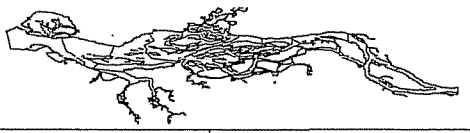
Criteria Met: YES

Comments: Deep humus layer. Forested area. This wetland is adjacent to the Leisure Time Resort Road.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce



Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15CA
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: TC-3-12

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	No
Depth of saturation:	0 Inches	Drift lines:	No
Depth to free water:	8 Inches	Drainage patterns:	
Oxidized rhizospheres:	No	Sediment deposits:	
Other:			

Criteria Met: YES

SOILS

Mapped Series: Bergsvik mucky peat, 0 to 1% slopes On Hydric Soils list?: Yes
Classification: Terric Tropohemists Drainage Class: very poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-5	Oe1	5YR3/2					highly organic, small roots, saturated soil
5-8	Oe2	5YR2.5/1					

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (5%)	Status	% Cover	Herbaceous Stratum (85%)	Status	% Cover
Picea sitchensis	FAC	100%	*Lysichitum americanum*	OBL	5%
			Oenanthe sarmentoca	OBL	5%
			Carex obnupta	OBL	60%
			Juncus effusus	FACW	30%
Shrub Stratum (10%)	**Status**	**% Cover**	**Woody Vine Stratum (0%)**	**Status**	**% Cover**
Alnus rubra	FAC	5%			
Spiraea douglasii	FACW-	70%			
Salix hookerana	FACW-	25%			

Percent of dominant species FAC, FACW, or OBL: 100%

Criteria Met: YES

Comments: Depressional area - ponded. This wetland is bordered by Shore Terrace Road.

Determination: Wetland

Wetland Determination Data Form
Routine Onsite Method

C R E S T
Columbia River Estuary Study Taskforce

Applicant: CREST	Project: City of Seaside LWI	
County: Clatsop	Township: 6N Range: 10W	Section: 15CA
Date: 20 Jul 98	Investigator(s): KLT/KMT	Sample Site: TC-3-13

HYDROLOGY

Inundated (Yes/No):	No	Water marks:	No
Depth of saturation:	0 Inches	Drift lines:	No
Depth to free water:	Inches	Drainage patterns:	
Oxidized rhizospheres:	No	Sediment deposits:	
Other:			

Criteria Met: NO

SOILS

Mapped Series: Bergsvik mucky peat, 0 to 1% slopes On Hydric Soils list?: Yes
Classification: Terric Tropohemists Drainage Class: very poorly drained

Depth (Inches)	Master Horizon	Matrix Color	Soil Texture*	Redox Concentrations Color	Redox Concentrations abundance/size/contrast	Other Hydric Soil Field Indicators	Comments
0-6	Oe1	5YR2.5/1	SDL				
6-8		7.5YR3/2	SD				
8-11	Oe2	5YR2.5/1	SDL				
11-12		7.5YR3/2	SD				
12-18	Oe3	10YR3/2	SDL				

* SD=Sand, SDL=Sandy Loan, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: YES

VEGETATION

Tree Stratum (20%)	Status	% Cover
Salix hookerana	FACW	50%
Malus fusca	FACW	50%

Shrub Stratum (10%)	Status	% Cover
Salix sitchensis	FACW	95%
Sambucus racemosa	FACU	5%

Herbaceous Stratum (60%)	Status	% Cover
Lysichitum americanum	OBL	10%
Oenanthe sarmentoca	OBL	20%
Lotus formosissimus	FACW+	25%
Juncus effusus	FACW	20%
Ranunculus repens	FACW	25%

Woody Vine Stratum (10%)	Status	% Cover
Rubus discolor	FACU-	100%

Percent of dominant species FAC, FACW, or OBL: 80%

Criteria Met: YES

Comments: Mucky peat - topographic changes from site TC-5-12. Located on about 2 feet higher ground near the barn and adjacent to an emergent wetland.

Determination: Upland

APPENDIX B

WETLAND CHARACTERIZATION

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEA-1
Data Sheet Numbers:	Size (acres): 5.31
Investigator(s):	Wetland Classification(s): E2EMN

Location - Legal: T6N R10W 10CA Other: Hydrologic Basin: Neawanna Estuary	Tax Lot(s) 61010 CA 1300
Soil - Mapped Series: Coquille-Clatsop Complex, 0 to 1 percent slope Hydrologic Source: Neawanna Estuary	

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
			Juncus effusus
			Carex obnupta
			Scirpus validus

Comments:

Wetland area in estuary adjacent to delineation 92-0252

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEA-2
Data Sheet Numbers:	Size (acres): 10.43
Investigator(s):	Wetland Classification(s): E2EMN

Location - Legal: T6N R10W 15BA, 15BC, 15BD

Other: East and west bank of Neawanna Creek, west of Wahanna Road

Hydrologic Basin: Neawanna Creek

Soil - Mapped Series: Coquille-Clatsop Complex, 0 to 1 percent slope

Hydrologic Source: Neawanna Creek

Tax Lot(s)

61015BA 5800, 7800, 7900

61015BC 3400, 3500

61015BD 400, 500, 503, 700, 800, 900, 1000

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
			Juncus effusus
			Carex obnupta
			Scirpus validus
			Potentilla anserina

Comments:

Offsite analysis. Regularly flooded emergent marsh.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: 23 Jun 98	Wetland Mapping Code: NEA-3
Data Sheet Numbers: # 1, # 2, # 3	Size (acres): 15.48
Investigator(s): KLT, KMT	Wetland Classification(s): E2EMN, E2FON, PFOC

Location - Legal: T6N R10W 15CC, 15CD, 22BA, 22BB

Other: East and west bank of Neawanna Creek, west of Wahanna Road

Hydrologic Basin: Neawanna Creek

Soil - Mapped Series: Coquille-Clatsop Complex, 0 to 1 percent slope

Hydrologic Source: Neawanna Creek

Tax Lot(s)

61015CC 5701, 5900, 8100, 8200, 8202, 10500, 10600,11805, 12301

61015CD 100, 200, 1300, 2000

61022BA 700, 900, 1000, 1001

61022BB 4900, 5000, 5101

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
Picea sitchensis	Spiraea douglasii		Juncus effusus
			Carex obnupta
			Scirpus validus
			Potentilla anserina
			Triglochin maritimum
			Agrostis alba
			Vicia americana

Comments:

Onsite analysis. Emergent wetland regularly flooded by Neawanna Creek.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: 18 May 98, 20 Jul 98	Wetland Mapping Code: NEA-4
Data Sheet Numbers: # 4, # 5	Size (acres): 214.15
Investigator(s): KLT, KMT	Wetland Classification(s): E2EMN, PSSC, PEMC, PFOC, PUBH, PABHx

Location - Legal: T6N R10W 22, 22BD, 22BC, 22CA, 22CC, 22CD

Other: East and west bank of Neawanna Creek, south of Broadway bridge

Hydrologic Basin: Neawanna Creek

Tax Lot(s)

61022 500, 600, 700, 900, 1000
61022BC 3405, 3406, 3408, 6200, 8500, 10700, 10701, 11801, 11900
61022BD 1200, 1201, 1500, 1600, 1700
61022CA 108, 200
61022CD 800, 880, 900, 909

Soil - Mapped Series: Coquille-Clatsop Complex, 0 to 1 percent slope
Coquille-Clatsop Complex, protected, 0 to 1 percent
Humitropepts-Troaquepts, 0 to 20 percent slope
Brenner Silt Loam, 0 to 3 percent slope

Hydrologic Source: Surface water, groundwater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
Picea sitchensis			Juncus effusus
Salix lasiandra			Carex obnupta
			Scirpus validus
			Potentilla anserina
			Triglochin maritimum
			Agrostis alba
			Carex lyngbei
			Eleocharis palustris
			Lysichitum americanum

Comments:

Onsite analysis. Emergent wetland regularly flooded by Neawanna Creek. Area south of Broadway bridge. Emergent marsh with small areas of scrub-shrub and forest. These wetlands are associated with the Neawanna Creek system and Mill Ponds. A large area, southeast of the city limits, is palustrine forested.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-1
Data Sheet Numbers:	Size (acres): 11.45
Investigator(s):	Wetland Classification(s): E2EMN, PSSR

Location - Legal: T6N R10W 15CB, 16DD, 21AA

Other: East and west banks of Necanicum River, north of 1st Ave bridge

Hydrologic Basin: Necanicum

Tax Lot(s)

61015CB 2100, 2102, 3100, 3800, 3900

61016DD 11100-11601, 13700-14000, 14200-15200

61021AA 12700, 12800, 13500-13800, 14100-14200

Soil - Mapped Series: Gearhart fine sandy loam, 3 to 15 percent slope
Waldport fine sand, 3 to 15 percent slope
Coquille-Clatsop complex, 0 to 1 percent slope

Hydrologic Source: Necanicum

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
	Baccharis douglasii		Agrostis alba
			Carex obnupta
			Juncus effusus
			Triglochin maritimum
			Salicornia virginica
			Trifolium wormskioldii
			Potentilla anserina
			Distichlys spicata

Comments:

Regularly flooded emergent marsh along the banks of the Necanicum River. Edge of wetland area is bordered by road, sewage treatment plant, or residential development.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-2
Data Sheet Numbers:	Size (acres): 8.66
Investigator(s):	Wetland Classification(s): E2EMN, PSSR, E2EMP, E2FOP

Location - Legal: T6N R10W 21DA, 21DB

Other: East and west banks of Necanicum River, south of Avenue G

Hydrologic Basin: Necanicum

Tax Lot(s)

61021DA 6200, 6400-6700

61021DB 100, 13100, 13800

Soil - Mapped Series: Gearhart fine sandy loam, 3 to 15 percent slope
Coquille-Clatsop complex, 0 to 1 percent slope

Hydrologic Source: Necanicum

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
	Salix spp.		Agrostis alba
			Carex obnupta
			Juncus effusus
			Triglochin maritimum
			Trifolium wormskioldii
			Potentilla anserina

Comments:

Regularly flooded emergent marsh and scrub-shrub along the banks of the Necanicum River. Wetland area is bordered by Necanicum River, roads, downtown development, or residential development.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-3
Data Sheet Numbers:	Size (acres): 1.52
Investigator(s):	Wetland Classification(s): PSSC

Location - Legal: T6N R10W 21DB, 21DC

Other: West of Mantle Lake

Hydrologic Basin: Necanicum

Tax Lot(s)

61021DB 18800

61021DC 101

Soil - Mapped Series: Humitropepts-Tropaquepts Complex, 0 to 20 percent slope

Hydrologic Source: Surfacewater, groundwater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
	Salix spp.		Juncus effusus
			Carex obnupta

Comments:

Wetland west of Mantle Lake and Necanicum River, surrounded by residential development. This is a seasonally flooded, palustrine scrub-shrub wetland.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-4
Data Sheet Numbers:	Size (acres): 1.15
Investigator(s):	Wetland Classification(s): PUBHx

Location - Legal: T6N R10W 21DB, 21DC Other: West of Mantle Lake Hydrologic Basin: Necanicum	Tax Lot(s) 61021DB 18800 61021DC 108, 109, 112, 113, 114, 125
Soil - Mapped Series: Humitropepts-Tropaquepts Complex, 0 to 20 percent slope Hydrologic Source: Surfacewater, groundwater	

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS

Comments:

Mantle Lake, surrounded by residential development. This is a permanently flooded, excavated palustrine unconsolidated bottom wetland. Obstructed culvert to Necanicum River exists.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-5
Data Sheet Numbers:	Size (acres): 2.88
Investigator(s):	Wetland Classification(s): PSSR, PFOR

Location - Legal: T6N R10W 28, 28AB

Other: South of Avenue U bridge, west of Highway 101

Hydrologic Basin: Necanicum

Tax Lot(s)

61028 300, 304

61028AB 1000

Soil - Mapped Series: Humitropepts-Tropaquepts Complex, 0 to 20% slope
Nestucca Silt Loam, 0 to 3 percent slope

Hydrologic Source: Surfacewater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS

Comments:

Wetland is south of Avenue U bridge, west of Highway 101 and adjacent to the Seaside Golf Course. This wetland area, including palustrine scrub-shrub, and palustrine forested is tidally influenced, seasonally.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-6
Data Sheet Numbers:	Size (acres): 7.89
Investigator(s):	Wetland Classification(s): PFOR

Location - Legal: T6N R10W 28, 28CC, 28CD

Other: West of Highway 101

Hydrologic Basin: Necanicum

Soil - Mapped Series: Humitropepts-Tropaquepts Complex, 0 to 20% slope
Nestucca Silt Loam, 0 to 3 percent slope

Hydrologic Source: Surfacewater

Tax Lot(s)

61028 300, 302

61028CC

61028CD 100, 200, 300

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS

Comments:

Wetland is west of Highway 101 and adjacent to the Seaside Golf Course. This wetland is a seasonal, tidally influenced, palustrine forested area. Adjacent to delineation 95-0296. Riparian forest on either side of the Necanicum River.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: 29 Jun 98	Wetland Mapping Code: NEC-7
Data Sheet Numbers: #6, #7	Size (acres): 156.36
Investigator(s): KLT, KMT	Wetland Classification(s): PFO, PEM

Location - Legal: T6N R10W 28, 28CC, 28CD, 28DC, 33
T5N R10W 4A
Other: West of Highway 101

Hydrologic Basin: Necanicum

Soil - Mapped Series: Nehalem Silt Loam, 0 to 3 percent slope
Nestucca Silt Loam, 0 to 3 percent slope

Hydrologic Source: Surfacewater

Tax Lot(s)

5104A 700, 800
61028 300, 1002, 1004, 1101, 1102
61028CC
61028CD 201
61028DC 100
61033 100, 201, 300, 400, 500, 501, 700, 701, 800, 1202, 1203, 1400, 1401, 1402, 1500

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
Alnus rubra	Rubus spectabilis		Juncus effusus
			Lotus pinnatus
			Ranunculus occidentalis
			Lysichitum americanum
			Ranunculus repens
			Carex obnupta

Comments:

Wetland is west of Highway 101 and south of the Seaside Golf Course. This wetland includes: the riparian corridor of the Necanicum River, emergent marsh on the Necanicum riverbank, seasonally flooded (palustrine emergent) pastureland in active use, and a seasonally flooded palustrine forested area. This area is south of delineation 95-0078.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: Offsite	Wetland Mapping Code: NEC-8
Data Sheet Numbers:	Size (acres): 1.22
Investigator(s):	Wetland Classification(s): PEMC

Location - Legal: T6N R10W 33

Other: West of Highway 101, southwest of Circle Creek Campground

Hydrologic Basin: Necanicum

Tax Lot(s)

61033 1202, 1203

Soil - Mapped Series: Nestucca Silt Loam, 0 to 3 percent slope

Hydrologic Source: Surfacewater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS

Comments:

Isolated emergent marsh surrounded by forest.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: 19 Jun 98, 20 Jul 98	Wetland Mapping Code: TC-1
Data Sheet Numbers: # 8, # 9, # 10, # 11	Size (acres): 64.58
Investigator(s): KLT, KMT	Wetland Classification(s): PEMC, PFO, PSS, PUB, PAB

Location - Legal: T6N R10W 10D, 15, 15CA

Other: East of Highway 101, south of airport, east of Wahanna Road

Hydrologic Basin: Thompson Creek, Stanley lake

Tax Lot(s)

61010D 1000, 2000, 2400, 2500, 3600-3900

61015 103, 200-2001, 2600, 2602

61015CA 5100-5900

Soil - Mapped Series: Gearhart Fine Sandy Loam, 3 to 15 percent slope
Bergsvik Mucky Peat, 0 to 1 percent slope
Brallier Mucky Peat, 0 to 1 percent slope

Hydrologic Source: Surfacewater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
	Salix sitchensis		Juncus effusus
			Carex obnupta
			Atriplex patula
			Potentilla anserina
			Salicornia virginica
			Eleocharis palustris
			Veronica americana
			Scirpus microcarpus

Comments:

On-site analysis. Includes both saline-influenced and freshwater wetlands. A recent tidegate removal near the airport seems to have affected the vegetation and hydrology. This is a forested and emergent wetland that is seasonally flooded.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: offsite	Wetland Mapping Code: TC-2
Data Sheet Numbers:	Size (acres): 22.78
Investigator(s):	Wetland Classification(s): PEMC

Location - Legal: T6N R10W 15

Other: South of Lewis and Clark Road, east of Wahanna Road

Hydrologic Basin: Thompson Creek

Tax Lot(s)

61015 100, 102, 103

Soil - Mapped Series: Brenner Silt Loam, 0 to 3 percent slope
Warrenton loamy fine sand, 0 to 3 percent slope

Hydrologic Source: Surfacewater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS

Comments:

Offsite analysis. Estuarine, emergent, seasonally flooded wetland that is used for pastureland.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: 20 Jul 98	Wetland Mapping Code: TC-3
Data Sheet Numbers: #12, #13	Size (acres): 27.48
Investigator(s): KLT, KMT	Wetland Classification(s): PEMC, PFOC

Location - Legal: T6N R10W 15, 15CD

Other: South of 12th Avenue, east of Wahanna Road

Hydrologic Basin: Thompson Creek

Tax Lot(s)

61015 1800, 1900, 2002, 2100, 2700

61015CD 1500-1901

Soil - Mapped Series: Bergsvik Mucky Peat, 0 to 1 percent slope
Gearhart fine sandy loam, 3 to 15 percent slope

Hydrologic Source: Surfacewater

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
Picea sitchensis	Spirea douglasii		Lysichitum americanum
	Salix hookerina		Oenanthe sarmentoca
	Alnus rubra		Carex obnupta
			Juncus effusus

Comments:

Onsite analysis. West of shore terrace development. Emergent and forested wetland, seasonally flooded.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

Wetland Characterization Sheet

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory

Dates(s) of field verification: offsite	Wetland Mapping Code: TC-4
Data Sheet Numbers:	Size (acres): 35.18
Investigator(s):	Wetland Classification(s): PEM, PFOC, PSS

Location - Legal: T6N R10W 22, 22BA

Other: South of Shore Terrace Road, east of Wahanna Road

Hydrologic Basin: Thompson Creek

Tax Lot(s)

61022 300, 302, 305

61022BA 100-600

Soil - Mapped Series: Bergsvik Mucky Peat, 0 to 1 percent slope
Gearhart fine sandy loam, 3 to 15 percent slope

Hydrologic Source: Surfacewater, groundwater from seasonal springs

Dominant Wetland Vegetation:

TREES	SHRUBS	VINES	HERBS
Picea sitchensis			Potentilla anserina
Alnus rubra			Juncus effusus
			Carex obnupta

Comments:

Offsite analysis. South of Shore Terrace development. Emergent, scrub-shrub, and forested wetland, seasonally flooded.

Wetland Classifications Codes:

PFO = palustrine forested PSS = palustrine scrub - shrub PEM = palustrine emergent PUB = palustrine unconsolidated
PAB = palustrine aquatic bed E2EM = estuarine intertidal emergent E2FO = estuarine intertidal forested

APPENDIX C

OFWAM
DATA AND SUMMARY

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEA-1	Wetland Type(s):	E2EM
Wetland Location:	Neawanna Creek		
Approx. Area (acres)	5.31	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	A	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	A	Q-3	A	Q-3	A	Q-3	C
Q-4	A	Q-4	A	Q-4	A	Q-4	C	Q-4	C
Q-5	A	Q-5	C	Q-5	C	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	C	Q-6	C	Q-6	B
Q-7	A					Q-7	A		
Q-8	A								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1		Q-1	B	Q-1	B	Q-1	B
Q-2	A	Q-2	B	Q-2	B	Q-2	A
Q-3	A	Q-3	A	Q-3	C	Q-3	C
Q-4	A	Q-4	B	Q-4	A	Q-4	B
Q-5B	A	Q-5	A	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEA - 1

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse habitat for wildlife	Woody debris, vegetative buffer
Fish Habitat	Intact	Sensitive species, adjacent to Newanna Creek
Water Quality	Intact	Evidence of flooding, dominant adjacent land use is open space
Hydrologic Control	Intact	Surrounded by floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Development is located upstream
Enhancement Potential	Moderate enhancement potential	Provides diverse wildlife habitat and vegetative buffer. Does not have high potential for enhancement because fish and wildlife are intact.
Education	Potential to provide educational uses	Intact fish and wildlife but land would need to be purchased to create reasonable access. However, North Coast Lands Conservancy is interested in using this land for education.
Recreation	Potential to provide recreational uses	Trails and boat ramps can be created if there is an interest and access can be provided.
Aesthetic Quality	Moderately pleasing	Wetland is near a major highway, but is otherwise quite pleasing.

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEA-2	Wetland Type(s):	E2EM
Wetland Location:	Neawanna Creek		
Approx. Area (acres)	10.43	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	C	Q-3	A	Q-3	A	Q-3	C
Q-4	A	Q-4	A	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	C	Q-6	A	Q-6	B
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	B	Q-1	B
Q-2	A	Q-2	B	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	A	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	B	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland site provides recreational opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEA - 2

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife	Urban, developed area with little vegetative buffer
Fish Habitat	Impacted or degraded	Highly modified and developed area
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Development is located upstream
Enhancement Potential	High enhancement potential	Wetland is somewhat degraded, but many characteristics are intact.
Education	N/A	Limited public access
Recreation	Potential to provide recreational uses	Access for boat ramps located within 1/2 mile
Aesthetic Quality	Moderately pleasing	Wetland is located adjacent to a residential area

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: No

Wetland Code:	NEA-3	Wetland Type(s):	E2EM, E2FO, PFO
Wetland Location:	Neawanna Creek, north of Broadway Bridge		
Approx. Area (acres)	15.48	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	B	Q-3	C	Q-3	A	Q-3	A	Q-3	C
Q-4	A	Q-4	A	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	C	Q-6	A	Q-6	B
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	A	Q-1	A
Q-2	A	Q-2	B	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	A	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	A	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

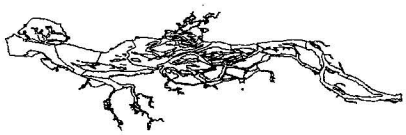
Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site provides recreational opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM



Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEA - 3

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife	Urban, developed area with little vegetative buffer
Fish Habitat	Impacted or degraded	Highly modified and developed area
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Development is located upstream
Enhancement Potential	High enhancement potential	Wetland is somewhat degraded, but many characteristics are intact.
Education	Potential to provide educational uses	Access provided through Broadway Park; however, landowner permission is required to really explore site
Recreation	Wetland provides recreational uses	Boat ramp at Broadway Park
Aesthetic Quality	Moderately pleasing	Wetland is located adjacent to Factory Outlet Mall and Trailer park

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: No

Wetland Code:	NEA-4	Wetland Type(s):	E2EM, PEM, PFO, PSS
Wetland Location:	Neawanna Creek, south of	Broadway Bridge,	including the Mill Ponds
Approx. Area (acres)	214.15	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	A	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	A	Q-3	A	Q-3	C
Q-4	A	Q-4	A	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	A	Q-5	C
Q-6	A	Q-6	A	Q-6	C	Q-6	A	Q-6	A
Q-7	A					Q-7	C		
Q-8	C								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	A
Q-2	A	Q-2	B	Q-2	B	Q-2	B
Q-3	A	Q-3	B	Q-3	C	Q-3	A
Q-4	A	Q-4	B	Q-4	A	Q-4	A
Q-5B	A	Q-5	B	Q-5	A	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site has the potential to provide recreational opportunities
Aesthetic Quality	Wetland is considered to be pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

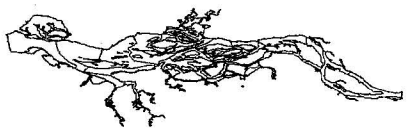
Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEA - 4

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Urban, developed area with little vegetative buffer
Fish Habitat	Impacted or degraded	Highly modified and developed area
Water Quality	Intact	Evidence of flooding and ponding, with a large percentage of wetland vegetative cover
Hydrologic Control	Intact	Adjacent floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned residential and development is located upstream
Enhancement Potential	High enhancement potential	Developed areas surround the wetland and little vegetated buffer/riparian area exists
Education	Potential to provide educational uses	North Coast Land Conservancy owns a large majority of this wetland and local schools utilize this site for educational purposes - intact emergent wetland with substantial wildlife.
Recreation	Potential to provide recreational uses	Boat ramp is located within one-half mile, kayaks and canoes use this site
Aesthetic Quality	Pleasing	Intact wetland with little developed structures surrounding site

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology



Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-1	Wetland Type(s):	E2EM, PSS
Wetland Location:	Necanicum Estuary, area north of Avenue G Bridge		
Approx. Area (acres)	44.51	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	C	Q-2	A	Q-2	A	Q-2	A
Q-3	C	Q-3	C	Q-3	A	Q-3	A	Q-3	B
Q-4	A	Q-4	B	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	B	Q-6	A	Q-6	B
Q-7	B					Q-7	A		
Q-8	A								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	A
Q-2	A	Q-2	B	Q-2	B	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	A	Q-4	B	Q-4	B	Q-4	C
Q-5B	C	Q-5	B	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site has the potential to provide recreational opportunities
Aesthetic Quality	Wetland is not pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 1

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Urban, developed area with little vegetative buffer
Fish Habitat	Impacted or degraded	Highly modified and developed area
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned residential and development is located upstream
Enhancement Potential	High enhancement potential	Degraded wetland, surrounded by developed uses
Education	Potential to provide educational uses	Viewing areas are available from 12th Street bridge
Recreation	Potential to provide recreational uses	Fishing and accessible by boat
Aesthetic Quality	Not pleasing	Visual detractors exist (sewage treatment plant and extensive urban development) and cannot be removed easily

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-2	Wetland Type(s):	E2EM, E2FO, PSS
Wetland Location:	Necanicum River, area south of Avenue G bridge		
Approx. Area (acres)	8.66	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	C	Q-2	A	Q-2	A	Q-2	A
Q-3	B	Q-3	C	Q-3	A	Q-3	A	Q-3	B
Q-4	A	Q-4	B	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	B	Q-6	A	Q-6	B
Q-7	B					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

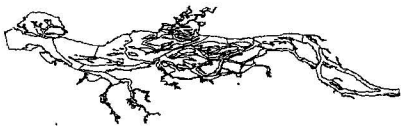
Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	A
Q-2	A	Q-2	B	Q-2	B	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	A	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	B	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site has the potential to provide recreational opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM



Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 2

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Urban, developed area
Fish Habitat	Impacted or degraded	Highly modified and developed area
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to 100 year floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned residential and commercial uses and development is located upstream
Enhancement Potential	High enhancement potential	Degraded wetland, surrounded by developed uses
Education	Potential to provide educational uses	Viewing areas are available from Avenue G bridge
Recreation	Potential to provide recreational uses	Fishing and accessible by boat
Aesthetic Quality	Moderately pleasing	Visual distractors, adjacent to developed downtown area

Oregon Freshwater Wetland Assessment Methodology

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Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-3	Wetland Type(s):	PSS
Wetland Location:	Area west of Mantle Lake		
Approx. Area (acres)	1.52	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	B	Q-1	A	Q-1	A
Q-2	B	Q-2		Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3		Q-3	A	Q-3	B	Q-3	B
Q-4	A	Q-4		Q-4	B	Q-4	A	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A	Q-6	B
Q-7	A					Q-7	B		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	B
Q-2	C	Q-2	B	Q-2	C	Q-2	A
Q-3	B	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	C
Q-5B	B	Q-5	C	Q-5	B	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide recreational opportunities
Aesthetic Quality	Wetland is not pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 3

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Urban, developed area
Fish Habitat	Impacted or degraded	Highly modified and developed system
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to 100 year floodplain, highly modified use
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned residential and area is enclosed
Enhancement Potential	High enhancement potential	Minimum riparian buffer surrounded by developed uses
Education	Not appropriate for educational uses	Enclosed lake surrounded by developed residential structures
Recreation	Not appropriate for or does not provide recreational uses	No public access
Aesthetic Quality	Not pleasing	Visual distractors, adjacent to developed subdivision

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-4	Wetland Type(s):	PUB
Wetland Location:	Mantle Lake, west of	Necanicum River	
Approx. Area (acres)	1.15	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	B	Q-1	A	Q-1	A
Q-2	B	Q-2		Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3		Q-3	A	Q-3	B	Q-3	B
Q-4	A	Q-4		Q-4	B	Q-4	A	Q-4	A
Q-5	B	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A	Q-6	B
Q-7	A					Q-7	B		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	B
Q-2	C	Q-2	B	Q-2	C	Q-2	A
Q-3	B	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	C
Q-5B	B	Q-5	C	Q-5	B	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide recreational opportunities
Aesthetic Quality	Wetland is not pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 4

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Urban, developed area
Fish Habitat	Impacted or degraded	Highly modified and developed system
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to 100 year floodplain, highly modified use
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned residential and area is enclosed
Enhancement Potential	High enhancement potential	Minimum riparian buffer surrounded by developed uses
Education	Not appropriate for educational uses	Enclosed lake surrounded by developed residential structures
Recreation	Not appropriate for or does not provide recreational uses	No public access
Aesthetic Quality	Not pleasing	Visual distractors, adjacent to developed subdivision

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-5	Wetland Type(s):	PFO, PSS
Wetland Location:	Necanicum River, south of Avenue U Bridge		
Approx. Area (acres)	2.97	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	A	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	B	Q-3	C	Q-3	A	Q-3	B	Q-3	B
Q-4	B	Q-4	B	Q-4	B	Q-4	B	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	A	Q-5	A
Q-6	A	Q-6	A	Q-6	B	Q-6	A	Q-6	A
Q-7	B					Q-7	B		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	B
Q-2	A	Q-2	B	Q-2	C	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	C
Q-4	B	Q-4	B	Q-4	B	Q-4	B
Q-5B	C	Q-5	B	Q-5	A	Q-5	B
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site has the potential to provide recreational opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 5

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Urban, developed area
Fish Habitat	Impacted or degraded	Highly modified and developed system
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to floodway modified channel
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned open space; however, adjacent land is Highway 101
Enhancement Potential	High enhancement potential	Other functions degraded minimum riparian buffer
Education	Potential to provide educational uses	Viewing area from Highway 101 or Avenue U bridge
Recreation	Potential to provide recreational uses	Boat ramp is within one mile
Aesthetic Quality	Moderately pleasing	Visual distractors, adjacent to Highway 101

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Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-6	Wetland Type(s):	PFO
Wetland Location:	Necanicum River, adjacent to Seaside Golf Course		
Approx. Area (acres)	7.89	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	B
Q-2	A	Q-2	A	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	A	Q-3	A	Q-3	B
Q-4	A	Q-4	B	Q-4	A	Q-4	C	Q-4	B
Q-5	A	Q-5	B	Q-5	B	Q-5	A	Q-5	B
Q-6	A	Q-6	A	Q-6	B	Q-6	B	Q-6	A
Q-7	B					Q-7	B		
Q-8	B								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	C	Q-1	
Q-2	A	Q-2	B	Q-2	A	Q-2	
Q-3	A	Q-3	B	Q-3	C	Q-3	
Q-4	A	Q-4	B	Q-4	B	Q-4	
Q-5B	C	Q-5	C	Q-5	A	Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site provides recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

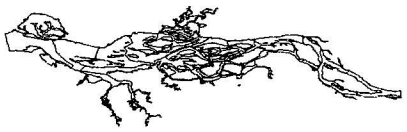
Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 6

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Connected to Necanicum River
Fish Habitat	Impacted or degraded	Sensitive species in river
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to floodway
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned open space, urbanizing area
Enhancement Potential	High enhancement potential	Other functions degraded
Education	Potential to provide educational uses	No access, except from Seaside Golf Course
Recreation	Wetland provides recreational uses	Canoe and kayaking, fishing
Aesthetic Quality	N/A	Only one Cowardin class, no access

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology



Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: No

Wetland Code:	NEC-7	Wetland Type(s):	PFO, PEM, PSS
Wetland Location:	Necanicum River, south of golf course, west of Hwy 101		
Approx. Area (acres)	156.36	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	A	Q-1	A	Q-1	B
Q-2	A	Q-2	A	Q-2	A	Q-2	A	Q-2	B
Q-3	A	Q-3		Q-3	A	Q-3	A	Q-3	B
Q-4	A	Q-4	B	Q-4	A	Q-4	C	Q-4	B
Q-5	A	Q-5	B	Q-5	B	Q-5	A	Q-5	B
Q-6	A	Q-6	A	Q-6	B	Q-6	B	Q-6	A
Q-7	B					Q-7	C		
Q-8	B								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1		Q-1	B	Q-1	B	Q-1	
Q-2	A	Q-2	B	Q-2	A	Q-2	
Q-3	A	Q-3	A	Q-3	C	Q-3	
Q-4	A	Q-4	C	Q-4	A	Q-4	
Q-5B	A	Q-5	B	Q-5	A	Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Results:

Enhancement Potential	Wetland has moderate enhancement potential
Education	Wetland site has potential for educational use
Recreation	Wetland site provides recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 7

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Connected to Necanicum River and other wetland areas, vegetative buffer
Fish Habitat	Intact	Sensitive species in river, adjacent to Necanicum River
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to floodway
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned exclusive farm use
Enhancement Potential	Moderate enhancement potential	Wetland is in good condition, not much to enhance
Education	Potential to provide educational uses	No public access, except along Highway 101
Recreation	Wetland provides recreational uses	Canoe and kayaking, fishing
Aesthetic Quality	N/A	Not very visible from road

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	NEC-8	Wetland Type(s):	PEM
Wetland Location:	West of Hwy 101, north of Rippet Road		
Approx. Area (acres)	1.22	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1		Q-1	B	Q-1	A	Q-1	
Q-2	A	Q-2		Q-2	A	Q-2	A	Q-2	
Q-3	C	Q-3		Q-3	A	Q-3	B	Q-3	B
Q-4		Q-4		Q-4	B	Q-4	B	Q-4	B
Q-5	B	Q-5		Q-5	B	Q-5	B	Q-5	B
Q-6	A	Q-6		Q-6	B	Q-6	B	Q-6	A
Q-7	A					Q-7	C		
Q-8	B								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	N/A
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is impacted
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	C
Q-2	C	Q-2	B	Q-2	C	Q-2	
Q-3	A	Q-3	B	Q-3	C	Q-3	
Q-4	B	Q-4	C	Q-4	A	Q-4	
Q-5B	A	Q-5	C	Q-5	B	Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Enhancement Potential	Wetland has moderate enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland site is not appropriate for or does not provide recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: NEC - 8

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Connected to other wetland areas, woody vegetation
Fish Habitat	N/A	No fish habitat
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Impacted	Adjacent to floodway
Sensitivity to Impact	Potentially sensitive to future impacts	Surrounding area is zoned exclusive farm use
Enhancement Potential	Moderate enhancement potential	Wetland is in good condition, diverse wildlife habitat
Education	Not appropriate for educational uses	No public access
Recreation	Not appropriate for or does not provide recreational opportunities	No public access, no boating or fishing
Aesthetic Quality	N/A	Not able to evaluate

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: No

Wetland Code:	TC-1	Wetland Type(s):	PEM, PFO,P SS, PAB, PUB
Wetland Location:	East of Wahanna Rd, area	surrounding airport, and	adjacent to Stanley Lake
Approx. Area (acres)	64.58	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	A
Q-2	B	Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	A	Q-3	A	Q-3	B
Q-4	A	Q-4	B	Q-4	A	Q-4	B	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	A	Q-6	C	Q-6	A	Q-6	C
Q-7	B					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

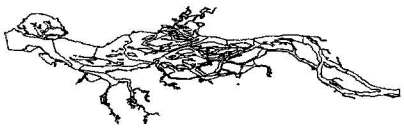
Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	A
Q-2	A	Q-2	B	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	C	Q-3	A
Q-4	A	Q-4	B	Q-4	A	Q-4	A
Q-5B	B	Q-5	B	Q-5	A	Q-5	A
Q-6	B	Q-6	B	Q-6	A	Q-6	A

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland provides recreational opportunities
Aesthetic Quality	Wetland is considered to be pleasing

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM



Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: TC - 1

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Variety of wetland classes, connected to other body of water or wetland
Fish Habitat	Impacted or degraded	Modified and developing area, not shaded
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Adjacent to Wahanna Road and development
Enhancement Potential	High enhancement potential	Wetland is somewhat degraded, but many characteristics are intact.
Education	Potential to provide educational uses	Access is limited; however, viewing areas exist along Lewis and Clark Road
Recreation	Wetland provides recreational uses	Adjacent to Stanley Lake, diverse wildlife habitat
Aesthetic Quality	Pleasing	Wetland is located adjacent to Stanley Lake, substantial amount of open space

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	TC-2	Wetland Type(s):	PEM
Wetland Location:	East of Wahanna Rd, south of Lewis and Clark Rd		
Approx. Area (acres)	22.78	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	B
Q-2	B	Q-2	A	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	A	Q-3	A	Q-3	C
Q-4	C	Q-4	A	Q-4	A	Q-4	B	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6		Q-6	C	Q-6	A	Q-6	C
Q-7	B					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	B
Q-2	A	Q-2	B	Q-2		Q-2	
Q-3	A	Q-3	B	Q-3	C	Q-3	
Q-4	A	Q-4	B	Q-4	B	Q-4	
Q-5B	C	Q-5	B	Q-5	B	Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: TC - 2

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Connected to other wetlands, no vegetated buffer
Fish Habitat	Impacted or degraded	Modified and developing area, not directly connected to lake or river, land used for grazing
Water Quality	Intact	Evidence of flooding
Hydrologic Control	Intact	Adjacent to floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Adjacent to Lewis and Clark Road and development
Enhancement Potential	High enhancement potential	Other functions are degraded, open pasture
Education	Potential to provide educational uses	No public access; however, limited viewing areas exist along Lewis and Clark Road
Recreation	Potential to provide recreational uses	Provides habitat for some wildlife species
Aesthetic Quality	N/A	No primary viewing area exists

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: No

Wetland Code:	TC-3	Wetland Type(s):	PEM, PFO
Wetland Location:	East of Wahanna Rd, South of 12th Avenue		
Approx. Area (acres)	27.48	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1		Q-1	B	Q-1	A	Q-1	A
Q-2	A	Q-2		Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3		Q-3	A	Q-3	A	Q-3	B
Q-4	C	Q-4		Q-4	A	Q-4	A	Q-4	A
Q-5	B	Q-5		Q-5	A	Q-5	A	Q-5	A
Q-6	A	Q-6		Q-6	B	Q-6	A	Q-6	A
Q-7	B					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	C								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	N/A
Water Quality	Wetland's water quality function is intact
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	B	Q-1	B	Q-1	
Q-2	C	Q-2	B	Q-2	C	Q-2	
Q-3	B	Q-3	B	Q-3	C	Q-3	
Q-4	A	Q-4	B	Q-4	B	Q-4	
Q-5B	C	Q-5	B	Q-5		Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Results:

Enhancement Potential	Wetland has little enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: TC - 3

Function	Assessment	Rationale
Wildlife Habitat	Provides habitat for some wildlife species	Connected to other wetlands, no vegetated buffer
Fish Habitat	N/A	No fish habitat
Water Quality	Intact	Evidence of flooding, surrounded by roads and development
Hydrologic Control	Intact	Adjacent to floodplain, restricted outlet
Sensitivity to Impact	Potentially sensitive to future impacts	Adjacent to Wahanna Road and Shore Terrace development
Enhancement Potential	High enhancement potential	Surrounded by urbanizing area, other functions not present
Education	Potential to provide educational uses	No public access; however, limited viewing areas exist along Wahanna Road
Recreation	Potential to provide recreational uses	Provides habitat for some wildlife species
Aesthetic Quality	N/A	No primary viewing area exists

C R E S T
Columbia River Estuary Study Taskforce

Oregon Freshwater Wetland Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory	Date: September 18, 1998
Project Location: City of Seaside	Offsite Assessment?: Yes

Wetland Code:	TC-4	Wetland Type(s):	PEM, PFO, PSS
Wetland Location:	East of Wahanna Rd, South of Shore Terrace		
Approx. Area (acres)	35.18	Investigator(s)	KLT, KMT

Function and Condition Assessment

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	C	Q-1	A	Q-1	B
Q-2	A	Q-2	A	Q-2	A	Q-2	A	Q-2	B
Q-3	A	Q-3	B	Q-3	A	Q-3	A	Q-3	C
Q-4	C	Q-4	A	Q-4	A	Q-4	A	Q-4	A
Q-5	B	Q-5	A	Q-5	A	Q-5	A	Q-5	A
Q-6	A	Q-6	A	Q-6	C	Q-6	A	Q-6	A
Q-7	A					Q-7	A		
Q-8	A								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides diverse wildlife habitat
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control function is intact
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	
Q-2	B	Q-2	B	Q-2	C	Q-2	
Q-3		Q-3	A	Q-3	C	Q-3	
Q-4	A	Q-4	B	Q-4	A	Q-4	
Q-5B	B	Q-5	B	Q-5	B	Q-5	
Q-6	B	Q-6	B	Q-6	B	Q-6	

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational opportunities
Aesthetic Quality	N/A

Oregon Freshwater Wetland Assessment Methodology

C R E S T
Columbia River Estuary Study Taskforce

Function and Condition Summary Sheet for OFWAM

Project Name: City of Seaside Local Wetlands Inventory

Wetland Code: TC - 4

Function	Assessment	Rationale
Wildlife Habitat	Provides diverse wildlife habitat	Variety of wetland classes, connected to other wetlands
Fish Habitat	Intact	Modified and developing area, not shaded, seasonal streams with fish
Water Quality	Impacted or degraded	Groundwater, seasonal streams
Hydrologic Control	Intact	Adjacent to floodplain
Sensitivity to Impact	Potentially sensitive to future impacts	Adjacent to Wahanna Road and development
Enhancement Potential	High enhancement potential	Other functions are degraded
Education	Potential to provide educational uses	No public access; however, limited viewing areas exist along Wahanna Road
Recreation	Potential to provide recreational uses	Diverse wildlife habitat
Aesthetic Quality	N/A	No primary viewing area exists

APPENDIX D

LOCALLY SIGNIFICANT WETLANDS CRITERIA CHECKLISTS

LSW Criteria Checklist Evaluating Wetland # NEA-1 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ✓ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEA-2 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # NEA-3 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEA-4 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # NEC-1 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
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		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # NEC-2 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
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		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # NEC-3 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEC-4 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # NEC-5 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
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✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEC-6 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEC-7 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ✓ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
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✓		Wetland rates in the second highest functional category for fish habitat (called *impacted or degraded* in OFWAM), and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids."
		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # NEC-8 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ___ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
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		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # TC-1 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
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B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
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		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # TC-2 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
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		Optional Criterion (local discretion): Wetland represents a *locally* unique plant community.
		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist Evaluating Wetland # TC-3 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
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✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ___ *diverse* wildlife habitat, ___ *intact* fish habitat, ✓ *intact* water quality, or ✓ *intact* hydrologic control.
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		Optional Criterion (local discretion): Wetland rates in highest category for education potential (it must be publicly owned to rank that in OFWAM) and there is documented use for educational purposes by a school or organization.

LSW Criteria Checklist

Evaluating Wetland # TC-4 City: Seaside

A. "OUT" Test

Wetlands that score "Yes" in any of the following categories do NOT proceed to Section B:

Y	N	
	✓	Wetlands ARTIFICIALLY CREATED ENTIRELY FROM UPLAND that are: (a) created for the purpose of controlling, storing, or maintaining stormwater; (b) active surface mining or active log ponds; (c) ditches without free & open connection to waters of the state AND w/o fish (d) < 1 acre and unintentionally created from irrigation leak or construction activity (e) created for the purpose of wastewater treatment, cranberry production, stock watering, settling of sediment, cooling industrial water, or as a golf course hazard
	✓	Documented as being contaminated by hazardous substances, materials or wastes ("Hazmat sites")

B. "IN" Those that meet ONE OR MORE of the following criteria are LSWs.

Y	N	
✓		Wetlands that score the highest rank (stated in italics below) for <u>any</u> of the four ecological functions addressed by OFWAM or equivalent methodology: ✓ *diverse* wildlife habitat, ✓ *intact* fish habitat, *intact* water quality, or ✓ *intact* hydrologic control.
		Wetlands that are rated in the second highest functional category for water quality (called *impacted or degraded* in OFWAM), <u>AND</u> that occur within 1/4 mile of a water quality-limited stream listed by DEQ.
	✓	Contain one or more rare/uncommon wetland plant communities in Oregon. (Most concise list is found as Appendix G in OFWAM).
✓		Inhabited by any species listed by the federal or state government as a sensitive, threatened or endangered species in Oregon (unless consultation w/appropriate agency deems the site not important for the maintenance of the species).
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APPENDIX E

RIPARIAN DATA

C R E S T
Columbia River Estuary Study Taskforce

City of Seaside Riparian Inventory

Date(s) of field work: September 22, 1998
Investigator(s): KLT, KMT
Location: Mill Creek, west of airport
Hydrologic Basin: Stanley Lake

Stream Name: Mill Creek
Stream Reach: CSR-1
Reach Length: 1000 feet

Associated Wetlands: TC-1
Adjacent Land-Use: Airport development zone, residential
Soil — Mapped Series: Gearhart Fine Sandy Loam, 3 to 15 percent slope
Stream Flow Direction: North

Tax Lot(s):
61010D TL 2300-2400
61010DC TL 500, 601, 700, 703, 1205

Channel Characteristics:

Channel Width: <5 feet Bank Full Depth: 2 feet Est. Depth of OHW: <2 feet

Bank Condition: Stable: ___ Minor Erosion : X Severe Erosion: _____

Percent Shaded: 0-25% X 26-50%: _____ 51-75% _____ >75% _____

Riparian Classes %*: FOD: 25 FOC: ____ SS: 50 EM: 25

Woody Debris: Present: X Not Present: ____

Substrate: Organic: X Sand: X Silt: X Gravel: _____ Other: _____

Degree of Human Channel Modification: High: X Moderate: _____ Low: _____

Comments:

Riparian area adjacent to Mill Creek, surrounded by development and Highway 101

Dominant Riparian Vegetation

TREES	SHRUBS	VINES	HERBS
Alnus rubra	Salix spp.	Rubus discolor	Athyrium filix-femina
Picea sitchensis			Ranunculus spp.
			Potentilla pacifica
			Carex obnupta
			Scirpus validus

Riparian Measurements: (Measured from Top of Bank (TOB), Looking Downstream)

Dist. TOB to Break in Slope: Left: n/a feet Right: n/a feet
Dist. TOB to Veg. Community Change: Left: n/a feet Right: n/a feet
Slope of Riparian Zone: Left: 0-10% X 11-19%_____ >20 % ____
Right: 0-10% X 11-19% _____ >20 % _____
Degree of Riparian Zone Disturbance: High: X Moderate: _____ Low: _____
Width of Riparian Zone Looking Downstream: Left: 20 feet Right: 20 feet

C R E S T
Columbia River Estuary Study Taskforce

City of Seaside Riparian Inventory

Date(s) of field work: September 22, 1998
Investigator(s): KLT, KMT
Location: East bank of Necanicum River, north of 1st Ave bridge
Hydrologic Basin: Necanicum

Stream Name: Necanicum River
Stream Reach: CSR- 2
Reach Length: 250 feet

Associated Wetlands: NEC-1
Adjacent Land-Use: Developed commercial
Soil — Mapped Series: Gearhart fine sandy loam, 3-15 percent slope
Stream Flow Direction: North

Tax Lot(s):
61021AA TL 13700-14100

Channel Characteristics:

Channel Width: 150 feet Bank Full Depth: 20 feet Est. Depth of OHW: 5 feet
Bank Condition: Stable: _____ Minor Erosion : X Severe Erosion: _____
Percent Shaded: 0-25% X 26-50%: _____ 51-75% _____ >75% _____
Riparian Classes %*: FOD: _____ FOC: 70 SS: _____ EM: 30
Woody Debris: Present: _____ Not Present: X
Substrate: Organic: X Sand: X Silt: _____ Gravel: _____ Other: _____
Degree of Human Channel Modification: High: X Moderate: _____ Low: _____
Comments:
Small riparian buffer located west of Copeland Lumber.

Dominant Riparian Vegetation

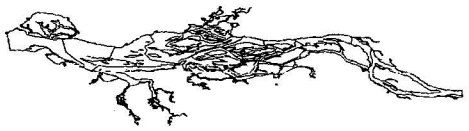
TREES	SHRUBS	VINES	HERBS
Alnus rubra	Salix hookeriana	Rubus discolor	Convolvulus arvense
			Carex obnupta

Riparian Measurements: (Measured from Top of Bank (TOB), Looking Downstream)

Dist. TOB to Break in Slope: Left: n/a feet Right: 20 feet
Dist. TOB to Veg. Community Change: Left: n/a feet Right: 20 feet
Slope of Riparian Zone: Left: 0-10% n/a 11-19% n/a >20 % n/a
Right: 0-10% _____ 11-19% _____ >20 % X
Degree of Riparian Zone Disturbance: High: _____ Moderate: X Low: _____
Width of Riparian Zone Looking Downstream: Left: _____ feet Right: 20 feet

C R E S T
Columbia River Estuary Study Taskforce

City of Seaside Riparian Inventory



Date(s) of field work: September 22, 1998
Investigator(s): KLT, KMT
Location: East bank of Neawanna Creeek, south of Broadway bridge
Hydrologic Basin: Neawanna

Stream Name: Neawanna Creek
Stream Reach: CSR- 3
Reach Length: 300 feet

Associated Wetlands: NEA-4
Adjacent Land-Use: Developed residential
Soil — Mapped Series: Coquille-Clatsop complex, protected, 0 to 1 percent slope
Stream Flow Direction: North

Tax Lot(s):
61022BD TL 1500

Channel Characteristics:

Channel Width: 150 feet Bank Full Depth: 100 feet Est. Depth of OHW: 5 feet
Bank Condition: Stable: X Minor Erosion : _____ Severe Erosion: _____
Percent Shaded: 0-25% X 26-50%: _____ 51-75% _____ >75% _____
Riparian Classes %*: FOD: 100 FOC: ____ SS: _____ EM: ____
Woody Debris: Present: _____ Not Present: X
Substrate: Organic: X Sand: ____ Silt: _____ Gravel: _____ Other: _____
Degree of Human Channel Modification: High: _____ Moderate: X Low: _____
Comments:
Isolated riparian buffer located west of apartment complex.

Dominant Riparian Vegetation

TREES	SHRUBS	VINES	HERBS
Alnus rubra	Cytisus scoparius	Rubus discolor	Athyrium filix-femina
Picea sitchensis			

Riparian Measurements: (Measured from Top of Bank (TOB), Looking Downstream)

Dist. TOB to Break in Slope: Left: n/a feet Right: 100 feet
Dist. TOB to Veg. Community Change: Left: n/a feet Right: 100 feet
Slope of Riparian Zone: Left: 0-10% n/a 11-19% n/a >20 % n/a
Right: 0-10% X 11-19% _____ >20 % _____
Degree of Riparian Zone Disturbance: High: _____ Moderate: X Low: _____
Width of Riparian Zone Looking Downstream: Left: _____ feet Right: _____ feet

C R E S T
Columbia River Estuary Study Taskforce

City of Seaside Riparian Inventory

Date(s) of field work: September 22, 1998
Investigator(s): KLT, KMT
Location: Mantle Lake, west of Necanicum River
Hydrologic Basin: Necanicum

Stream Name: Necanicum River
Stream Reach: CSR-4
Reach Length: 370 feet

Associated Wetlands: NEC-3, NEC-4
Adjacent Land-Use: Developed residential
Soil — Mapped Series: Humitropepts-Tropaquepts complex, 0 to 20 percent slope
Stream Flow Direction: North

Tax Lot(s):
61021DB TL 18800
61021DC TL 101,108, 109,112,113,114,125

Channel Characteristics:

Channel Width: ___ feet Bank Full Depth: 70 feet Est. Depth of OHW: ___ feet
Bank Condition: Stable: ___ Minor Erosion : X Severe Erosion: _____
Percent Shaded: 0-25% X 26-50%: _____ 51-75% _____ >75% _____
Riparian Classes %*: FOD: ____ FOC: 20 SS: 80 EM: ___
Woody Debris: Present: ___ Not Present: X
Substrate: Organic: X Sand: ___ Silt: ___ Gravel: _____ Other: _____
Degree of Human Channel Modification: High: X Moderate: _____ Low: _____
Comments:
Riparian area adjacent to Mantle Lake, surrounded by development. Culvert to Necanicum River.

Dominant Riparian Vegetation

TREES	SHRUBS	VINES	HERBS
Alnus rubra	Cytisus scoparius	Rubus discolor	
Picea sitchensis	Salix spp.		

Riparian Measurements: (Measured from Top of Bank (TOB), Looking Downstream)

Dist. TOB to Break in Slope: Left: n/a feet Right: n/a feet
Dist. TOB to Veg. Community Change: Left: n/a feet Right: n/a feet
Slope of Riparian Zone: Left: 0-10% ___ 11-19% _____ >20 % X
Right: 0-10% _____ 11-19% _____ >20 % X
Degree of Riparian Zone Disturbance: High: X Moderate: _____ Low: _____
Width of Riparian Zone Looking Downstream: Left: ___ feet Right: ___ feet

APPENDIX F

RIPARIAN ASSESSMENT

C R E S T
Columbia River Estuary Study Taskforce

Riparian Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory

Location: Mill Creek			
Riparian Code: CSR - 1			
Approx Riparian Width: 20 feet			
Associated Wetland Code: TC - 1			
Date:	September, 1998	Investigator(s):	KLT, KMT

Water Quality		Flood Management		Thermal Regulation		Wildlife Habitat	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	B
Q-2	B	Q-2	A	Q-2	B	Q-2	B
Q-3	A	Q-3	B	Q-3	A	Q-3	A
Q-4	A					Q-4	A
Q-5	A					Q-5	C
						Q-6	B
						Q-7	A
						Q-8	A

Results:

Function	Assessment	Rationale
Water Quality	Moderate Value	Surrounded by development and Highway 101
Flood Management	Moderate Value	Channelization
Thermal Regulation	Moderate Value	Not extensive woody vegetation
Wildlife Habitat	Moderate Value	Limited surface water and adjacent development

C R E S T
Columbia River Estuary Study Taskforce

Riparian Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory

Location: East bank of Necanicum River, north of 1st Avenue bridge			
Riparian Code: CSR - 2			
Approx Riparian Width: 20 feet			
Associated Wetland Code: NEC - 1			
Date:	September, 1998	Investigator(s):	KLT, KMT

Water Quality		Flood Management		Thermal Regulation		Wildlife Habitat	
Q	A	Q	A	Q	A	Q	A
Q-1	C	Q-1	A	Q-1	B	Q-1	C
Q-2	B	Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	B	Q-3	B
Q-4	B					Q-4	B
Q-5	A					Q-5	C
						Q-6	B
						Q-7	B
						Q-8	B

Results:

Function	Assessment	Rationale
Water Quality	Moderate Value	Adjacent to impervious surface
Flood Management	Moderate Value	Channelization
Thermal Regulation	Moderate Value	Vegetation does not hang over the river
Wildlife Habitat	Low Value	Adjacent to downtown development

C R E S T
Columbia River Estuary Study Taskforce

Riparian Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory

Location: East bank of Neawanna Creek, south of Broadway bridge			
Riparian Code: CSR - 3			
Approx Riparian Width: 20 feet			
Associated Wetland Code: NEA - 4			
Date:	September, 1998	Investigator(s):	KLT, KMT

Water Quality		Flood Management		Thermal Regulation		Wildlife Habitat	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	C
Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3	A	Q-3	B	Q-3	B
Q-4	A					Q-4	B
Q-5	A					Q-5	C
						Q-6	A
						Q-7	A
						Q-8	A

Results:

Function	Assessment	Rationale
Water Quality	High Value	Surrounded by emergent marsh
Flood Management	High Value	Surrounded by emergent marsh
Thermal Regulation	Moderate Value	No shading
Wildlife Habitat	Moderate Value	No woody debris

C R E S T
Columbia River Estuary Study Taskforce

Riparian Assessment Methodology

Project Name: City of Seaside Local Wetlands Inventory

Location: Mantle Lake			
Riparian Code: CSR - 4			
Approx Riparian Width: 70 feet			
Associated Wetland Code: NEC-3, NEC-4			
Date:	September, 1998	Investigator(s):	KLT, KMT

Water Quality		Flood Management		Thermal Regulation		Wildlife Habitat	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	B
Q-2	B	Q-2	A	Q-2	B	Q-2	B
Q-3	A	Q-3	B	Q-3	A	Q-3	A
Q-4	A					Q-4	A
Q-5	A					Q-5	C
						Q-6	B
						Q-7	A
						Q-8	A

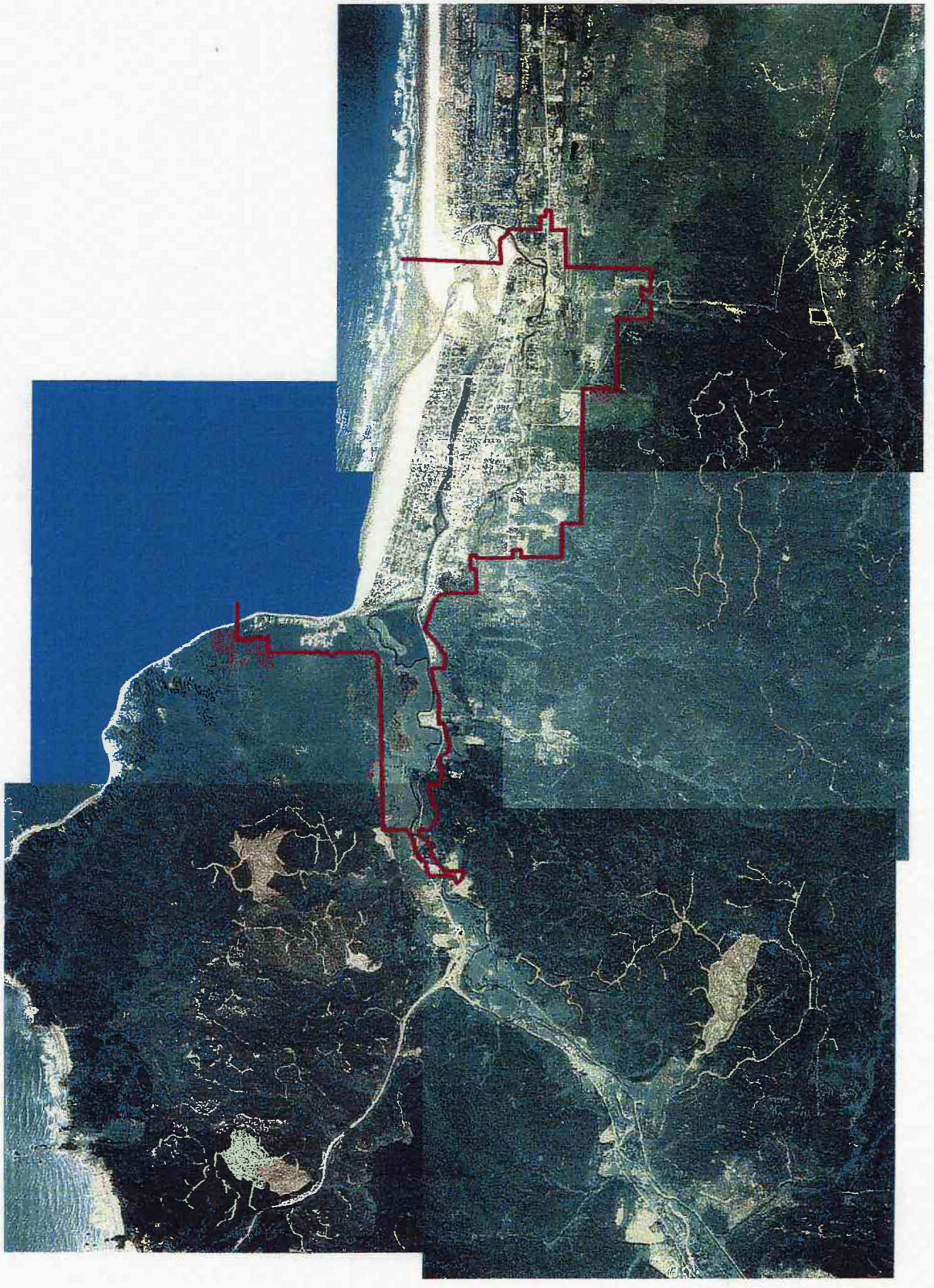
Results:

Function	Assessment	Rationale
Water Quality	Moderate Value	Herbaceous vegetation
Flood Management	Moderate Value	Riprap and channelization
Thermal Regulation	Moderate Value	No shading
Wildlife Habitat	Moderate Value	Surrounding residential development

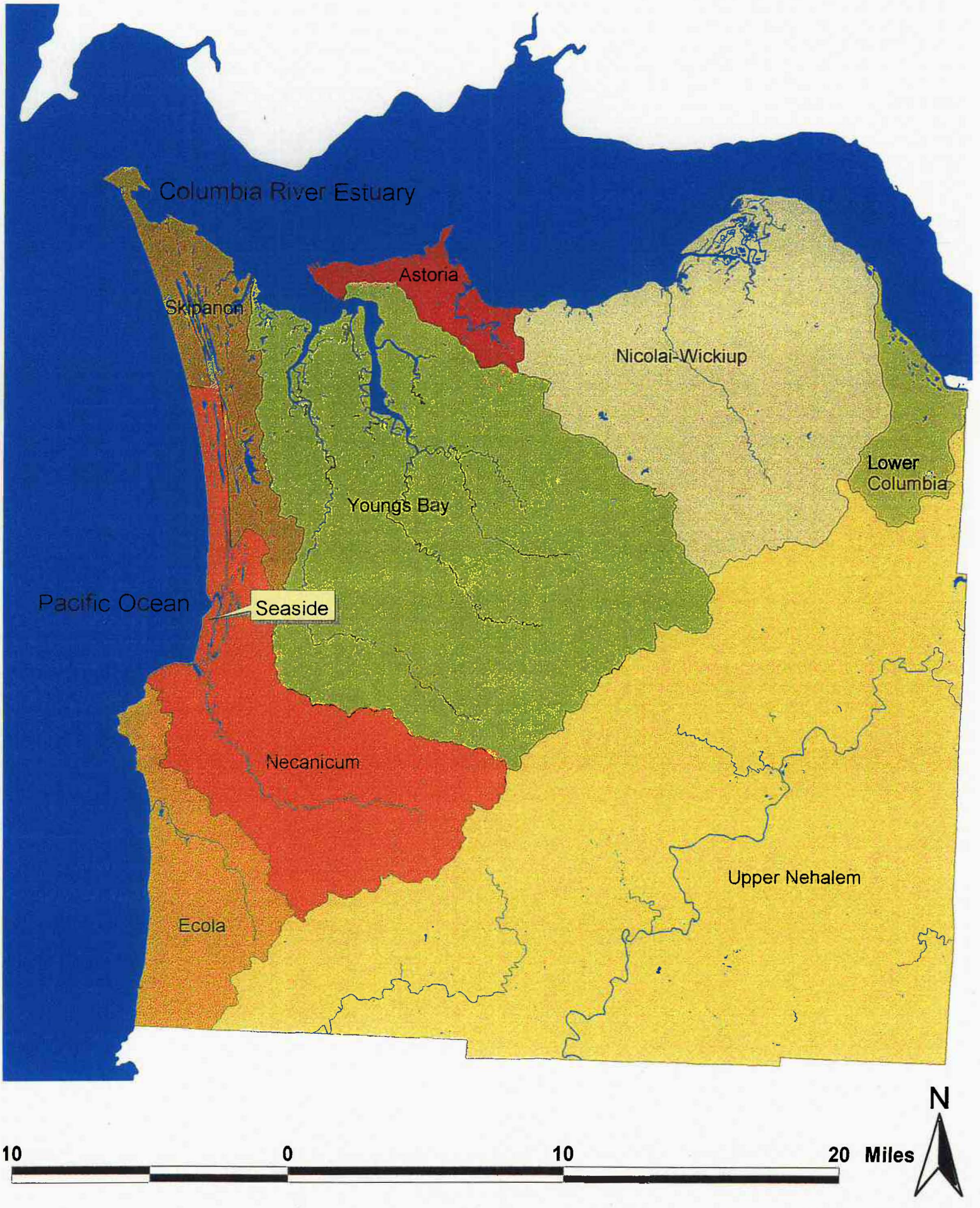
APPENDIX G

MAPS

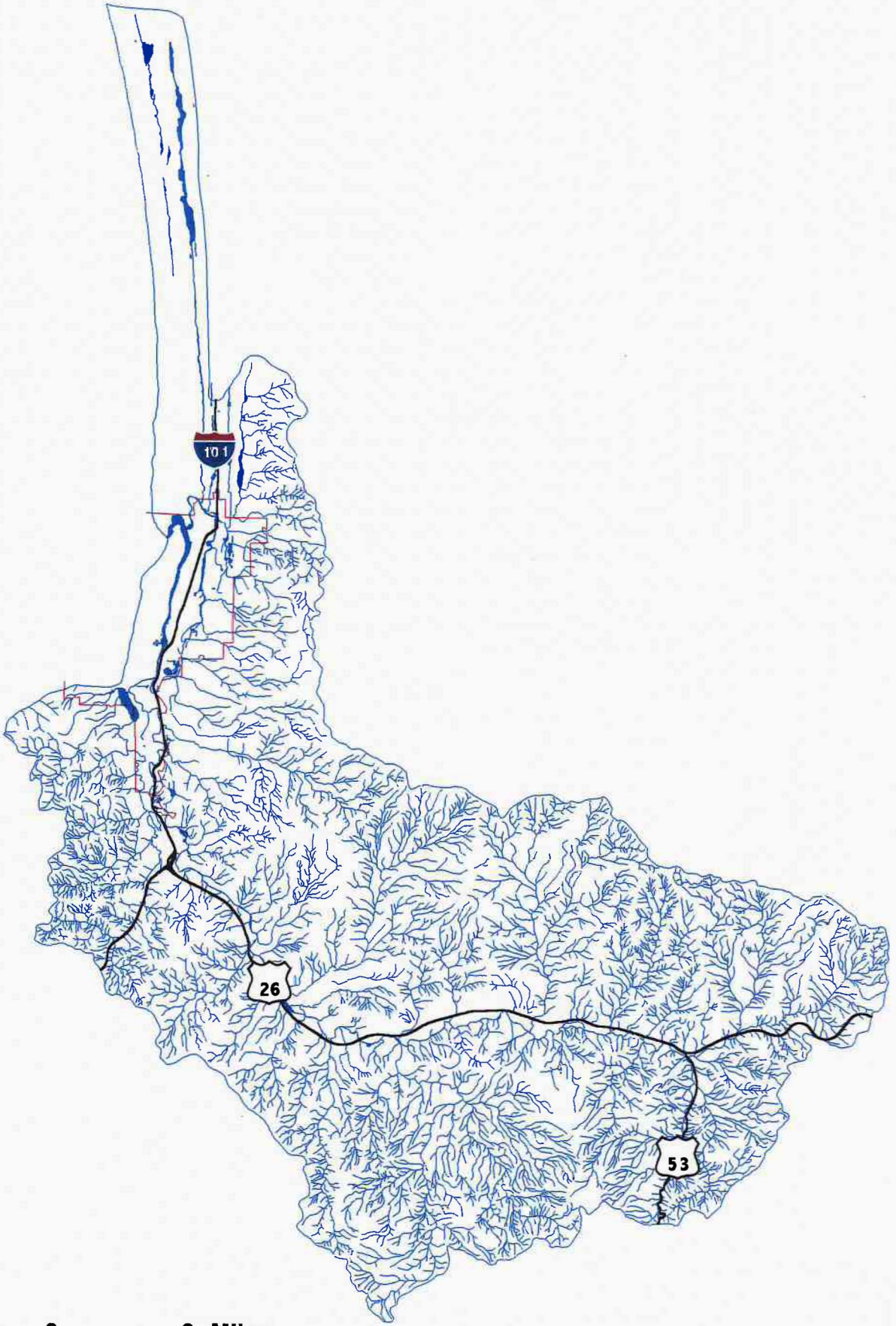
City of Seaside
Local Wetlands Inventory and Goal 5 Planning Area



Clatsop County Watersheds



Necanicum Watershed



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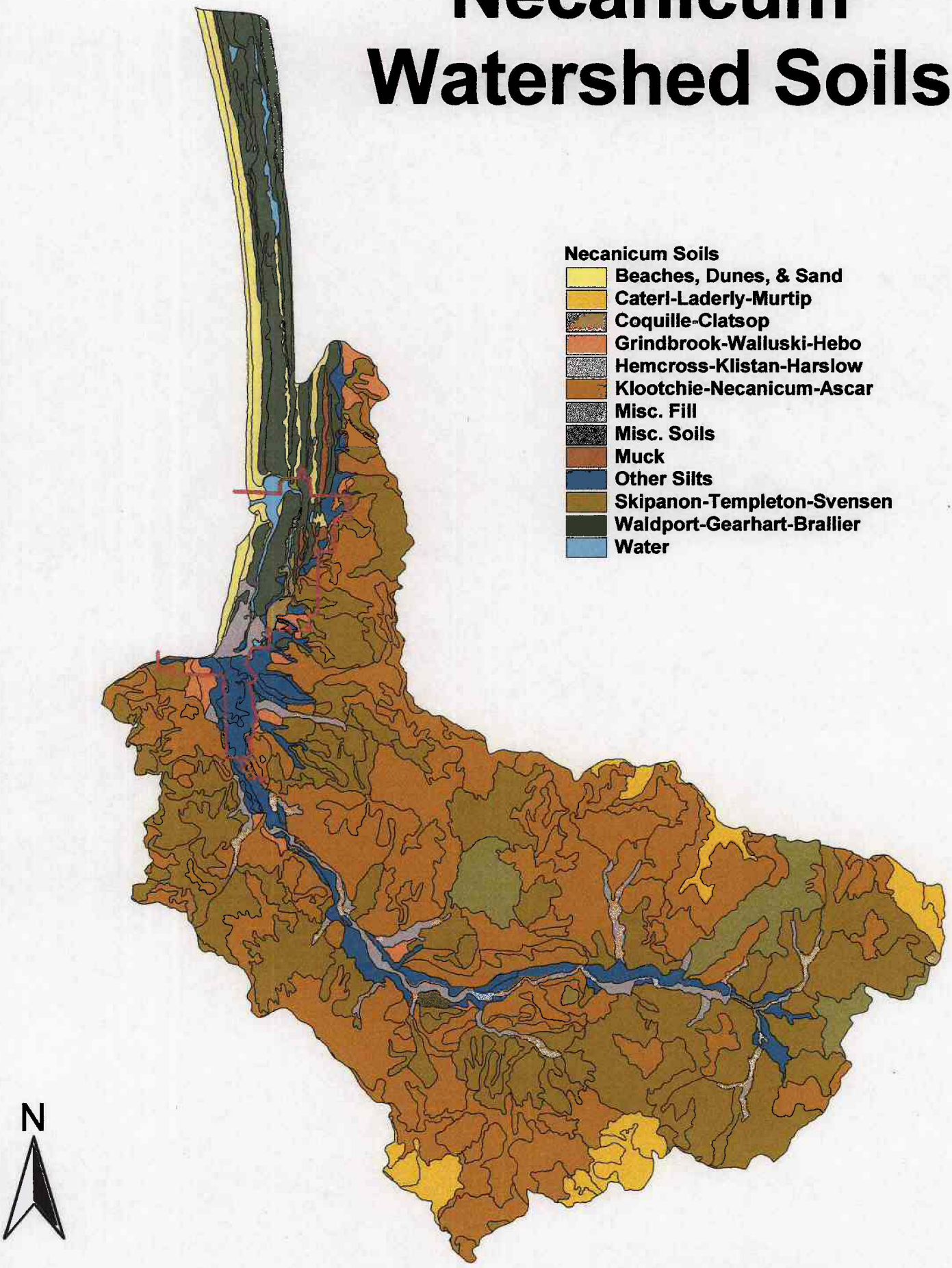
N

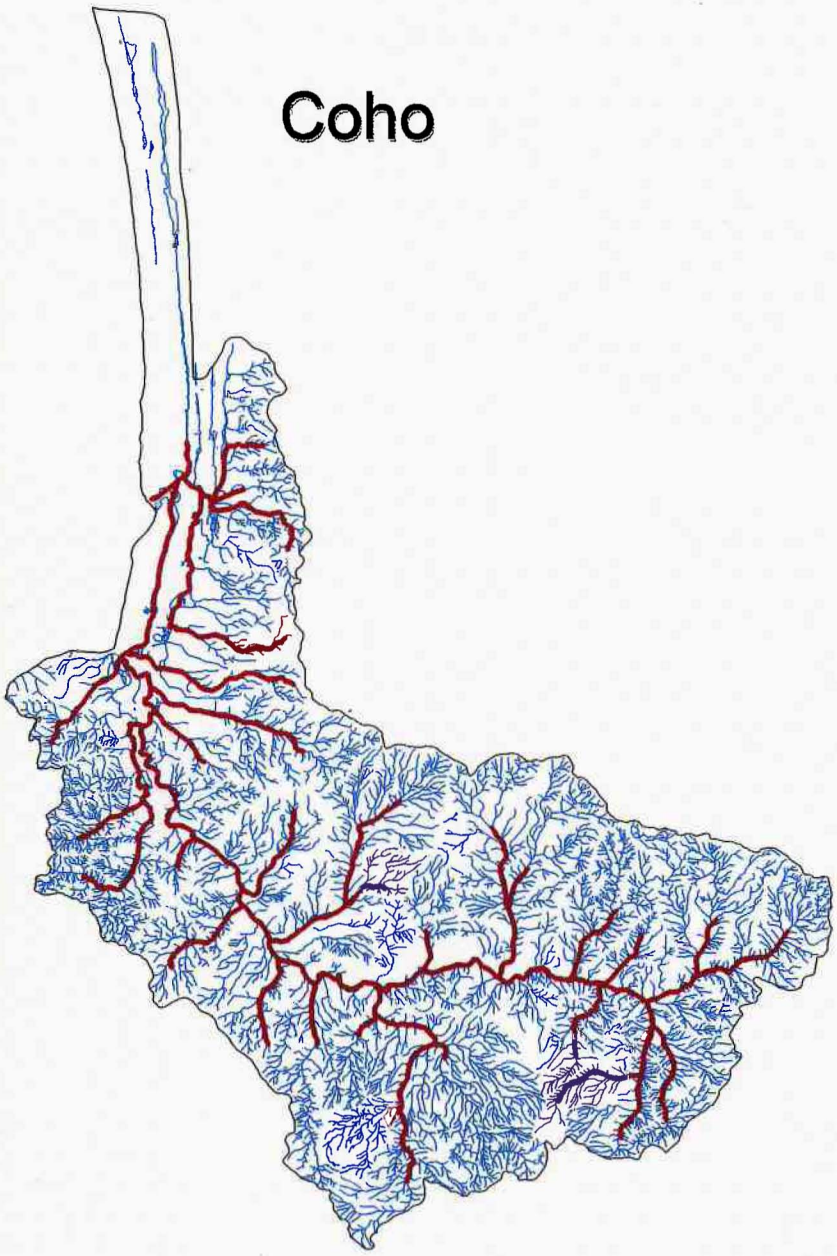
Necanicum Watershed Soils



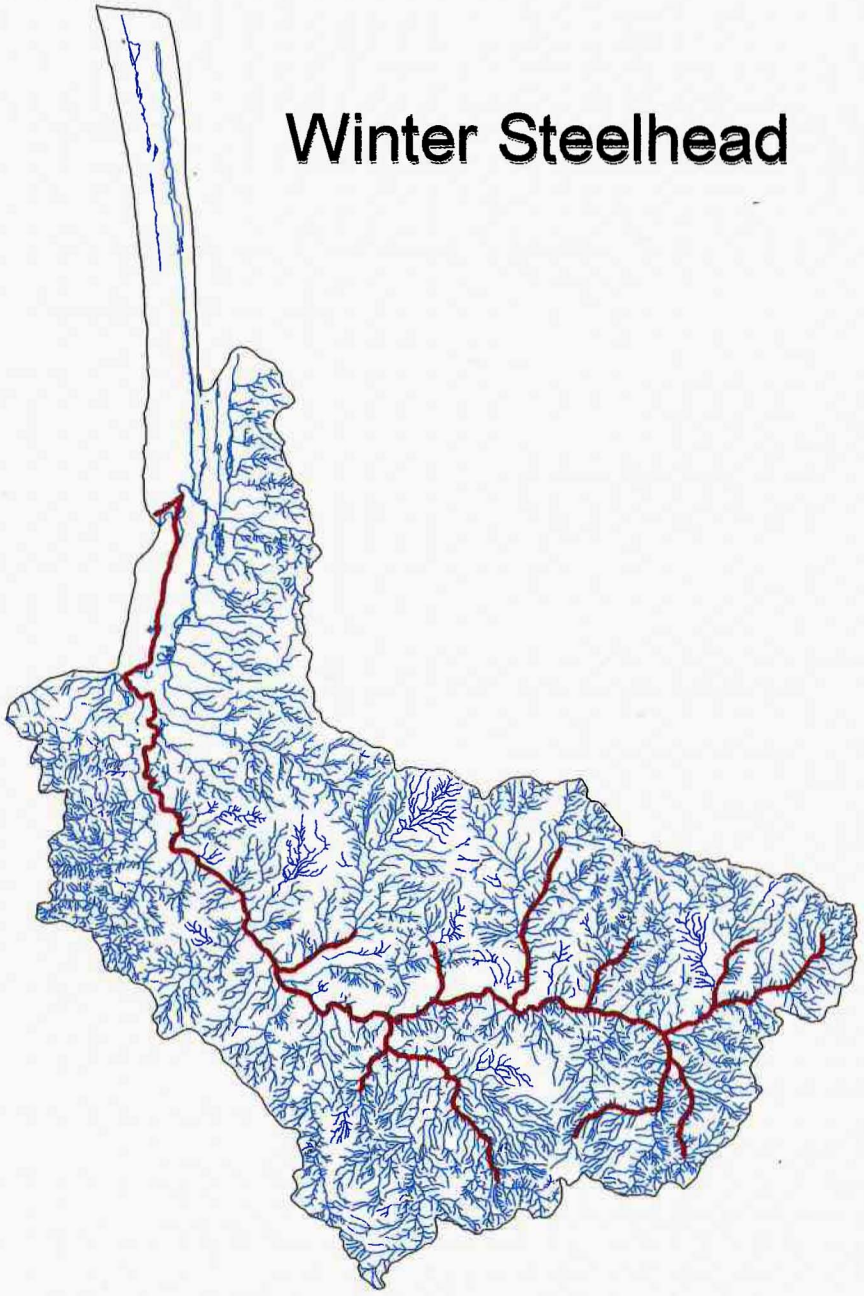
Necanicum Watershed Fish Distribution Data (ODFW, 1996)

"Areas of suitable habitat currently believed to be
utilized by wild, natural, and/or hatchery fish populations."

Coho



Winter Steelhead



Oregon Estuary Plan Book Data (1987)
Necanicum Estuary