

CONFEDERATED TRIBES OF THE COOS, LOWER UMPQUA, AND SIUSLAW INDIANS

Wetlands Inventory and Assessment

November 2016



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CONFEDERATED TRIBES OF THE
COOS, LOWER UMPQUA, AND SIUSLAW INDIANS
WETLANDS INVENTORY AND ASSESSMENT REPORT

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1.0 Overview:

The Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians have created this report to undertake an inventory and assessment of wetlands on its reservation, fee and trust lands. The National Wetlands Inventory was used to inventory wetlands within the Tribes' land holdings. The Oregon Rapid Wetland Assessment Protocol (ORWAP) was utilized to aid in the preliminary assessment of those wetlands identified. Parameters included presettlement vegetation class, rare wetland type, soils, erosion hazard, and rare species score among other parameters.

Tribal resources, including but not limited to culturally significant wetland species, and rare, threatened and endangered species, were inventoried to the extent possible as well as non-native invasive species. Additionally, this assessment also evaluated environmental factors, to the extent possible, which are currently affecting or could potentially affect Tribal resources that occur within Tribal wetlands and Tribal health.

Results of this Wetlands Inventory and Assessment indicated that approximately 70% of the wetlands inventoried are currently impaired by a myriad of environmental factors and that a more thorough inventory and assessment of those wetlands, especially those containing or suspected to contain culturally significant species as well as rare, threatened and endangered species, is warranted prior to any restoration project development and/or mitigation management. Of the remaining 30% of the wetlands that were determined to not be impaired at this time, approximately 75% of those unimpaired wetlands are anticipated to become impaired over time if preventative degradation management is not implemented.

1.1 Introduction:

The Tribes currently own approximately 547 acres of land, 161 acres of which are tidally influenced as well as non-tidally influenced wetlands. Impaired water and air quality on and near these lands continues to be a problem that impacts the health and availability of Tribal resources within our wetlands as well as the health of Tribal members, the surrounding community, and the environment. The purpose of this inventory and assessment is to inventory and assess wetlands on Tribal lands. This document will also serve as the foundation for the Tribes' Wetland Protection Program Monitoring and Assessment Strategy.

1.2 Problem Statement

Wetlands are one of the most productive ecosystems on the planet and the ecosystem functions and ecological services they provide are crucial to the survivability and longevity of every species. Unfortunately, wetlands have been ever increasingly vanishing from Tribal landscapes over the past 100 plus years. The Coos Bay estuary, in particular, has lost 80% of its tidal wetlands and 90% of its salt marshes since the 1850's (Coos Watershed Association, 2010). Much of this loss can be attributed to water sequestration from wetlands for agricultural/residential purposes, filling of wetlands for the purposes of residential/industrial development, and hydrological alterations, including dikes, tide gates, ditches, and culverts, for the purposes of constraining/inhibiting tidal fluctuations. Non-native invasive species and pollution have also helped to facilitate the loss and degradation of Tribal wetlands and have greatly impacted the health and availability of Tribal resources as well as traditional practices.

Because wetlands serve such an integral role in not only the watershed but in the lives of our peoples and the surrounding community, the gathering of baseline wetland data is necessary in order to better understand and ensure the health and productivity of wetlands for the next seven generations within the Tribes' land holdings as well as the Tribes' Ancestral Territory and properly manage and sustainably harvest Tribal resources within those wetlands for cultural and economic purposes.

1.3 Goals and Objectives

The wetland inventory and assessment's main goal is to establish a baseline in wetlands extent, condition, and function, which, in turn will help detect changes and characterize those changes over time. The assessment will also help foster the development of the Tribe's Wetland Protection Program Monitoring and Assessment Strategy as well as identify Tribal wetlands requiring restoration efforts that will protect, preserve, restore, and enhance culturally significant wetland species, and rare, threatened and endangered species within those wetlands.

In order to achieve the program's underlying goal, the Tribes will first identify wetlands within the various tracts with which the Tribes own and inventory culturally significant wetland species, and rare, threatened and endangered species within the boundaries of the wetlands identified as well as non-native invasive species. Environmental issues that are currently affecting or could potentially affect Tribal resources within the Tribes' wetlands and Tribal health will also be assessed. Detailed wetlands maps for regulatory purposes will be provided where applicable and/or as available.

2.0 Methodology:

This wetland inventory and assessment was conducted to help address the need for baseline wetland data and models of Tribal wetland functions and processes; to inventory and assess culturally significant wetland species, rare, threatened and endangered species, and non-native invasive species that were determined or were identified as possibly affecting the healthy functioning processes of the associated wetland; and to identify environmental factors that are currently affecting or could potentially affect Tribal resources, Tribal health, and traditional practices. The data collected will assist in the research and development of strategic action plans addressing the effects of point and non-point source pollution and climate change, potential restoration projects, and provide valuable effectiveness data for these projects to determine mitigation and restoration achievements.

Because the Tribes' land holdings are composed of 37 tracts spread over 3 watersheds, the National Wetlands Inventory was used to help effectively and efficiently locate wetlands on the Tribes' various properties. See appendix A for If an on-the-ground investigation eluded to a possible wetland being present that was not identified by the National Wetlands Inventory (NWI), GPS coordinates using a Garmin GPS Map 60CSx were taken of the visual extent of the wetland in question and a more thorough investigation was purposed to identify, delineate, classify, and map the wetland at a later date.

The assessment method used to implement this wetland inventory and assessment, ORWAP, was developed to be used for multiple purposes for multiple agencies. The purposes include assessing wetlands within a city or watershed along with individual wetlands or portions of wetlands. In addition, site integrity is calculated and a series of wetland functions, values, and other attributes are scored, including: water storage and delay, sediment retention and stabilization, phosphorus retention, nitrate removal and retention, thermoregulation, carbon sequestration, organic matter export, pollinator habitat, aquatic invertebrate habitat, anadromous fish habitat, non-anadromous fish habitat, amphibian and reptile habitat, waterbird feeding habitat, waterbird nesting habitat, songbird, raptor, and mammal habitat, and native plant diversity.

For the purposes of this preliminary baseline wetland inventory and assessment, the ORWAP map viewer was utilized to map wetlands within the Tribes' various land holdings. The Oregon Rapid Wetland Assessment Protocol Report via the Oregon Explorer Natural Resources Digital Library was ran for each property that contained wetlands as identified by the NWI and included the following parameters: location information, soil information, watershed information, rare species scores, and elements of occurrence of rare species. NWI maps were then layered atop of the Tribes

property boundaries to also determine the approximate extent in acres of different wetland types. On the ground surveys/investigations were conducted for some, but not all of the properties, as staffing/time allowed. More thorough wetland identifications, delineations, classifications, and mapping surveys as well as on site investigations will need to be performed prior to restoration project proposal prioritization and development.

3.0 Existing Conditions

The following table, **Table 1**, lists Tribal properties that contain wetlands according to the US Fish and Wildlife Service National Wetlands Inventory.

TABLE 1. CONFEDERATED TRIBES OF THE COOS, LOWER UMPQUA AND SIUSLAW INDIANS' LAND

Tract Name	County	Wetland Acres
BRAINARD (DEADWOOD)	LANE	17.69
MUNSEL LAKE	LANE	108.09
OCEAN DUNES	LANE	6.17
RETAINING PONDS	LANE	3.06
HATCH (QA'AICH)	LANE	9.91
SEVERY	LANE	0.18
TENMILE	COOS	0.15
KENTUCK SLOUGH	COOS	0.094
FISHER (KCBY)	COOS	2.22
FLANAGAN PIONEER CEMETERY (WUALACH) COMPLEX	COOS	0.36
EMPIRE (TRIBAL HALL COMPLEX)	COOS	0.57
FOSSIL POINT COMPLEX	COOS	4.82

COOS HEAD	COOS	0.59
GREGORY POINT/CHIEF'S ISLAND (BALDICH)	COOS	7.26
SIXES RIVER	CURRY	0.17
Total		161.33

Deadwood, Siuslaw Watershed; Lower Deadwood Creek Sub-basin



The Brainard Tract is a 35.59 acre parcel located in Lane county about 5 miles northwest of Deadwood, OR. The site comprises a mostly mixed stand of red alder and big leaf maple trees with Misery Creek, a tributary of the West Fork Deadwood creek, flowing through the southern portion of the property. The surrounding woodlands also contain a mixed stand of second growth Douglas fir, cedar, and a few western hemlock trees.

According to the National Wetlands Inventory (NWI), this property is comprised of approximately 6.29 acres of freshwater emergent wetland (PEM1C), 2.99 acres of freshwater forested/shrub wetland (PFO1C), 1.51 acres of riverine wetland type R3UBH, and 6.9 acres of riverine type R3USC.

Results from the Oregon Rapid Wetland Assessment tool for wetland type 1 revealed:

Presettlement Vegetation Class: Douglas fir

Soils: Nekoma silt loam

Erosion Hazard: Slight

Rare Species Score: 1.42

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for wetland type 2 revealed:

Presettlement Vegetation Class: Douglas fir

Soils: Preacher-Bohannon-Slickrock complex, 50 to 75 percent slopes

Erosion Hazard: Severe

Rare Species Score: 1.42

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for wetland type 3 revealed:

Presettlement Vegetation Class: Riparian hardwoods

Soils: Nekoma silt loam

Erosion Hazard: Slight

Rare Species Score: 1.72

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

- Red Alder (*Alnus rubra*)
- Subarctic Lady Fern (*Athyrium filix-femina*)
- Fox Glove (*Digitalis spp*)
- Field Horsetail (*Equisetum acicularis*)
- *Juncus Spp.*
- Skunk Cabbage (*Lysichiton americanum*)
- Bracken Fern (*Pteridium aquilinum*)
- Salmonberry (*Rubus spectabilis*)

- Western Thimbleberry (*Rubus parviflorus*)
- Western Dock (*Rumex aquaticus* var. *fenestratus*)
- Willow (*Salix Spp.*)

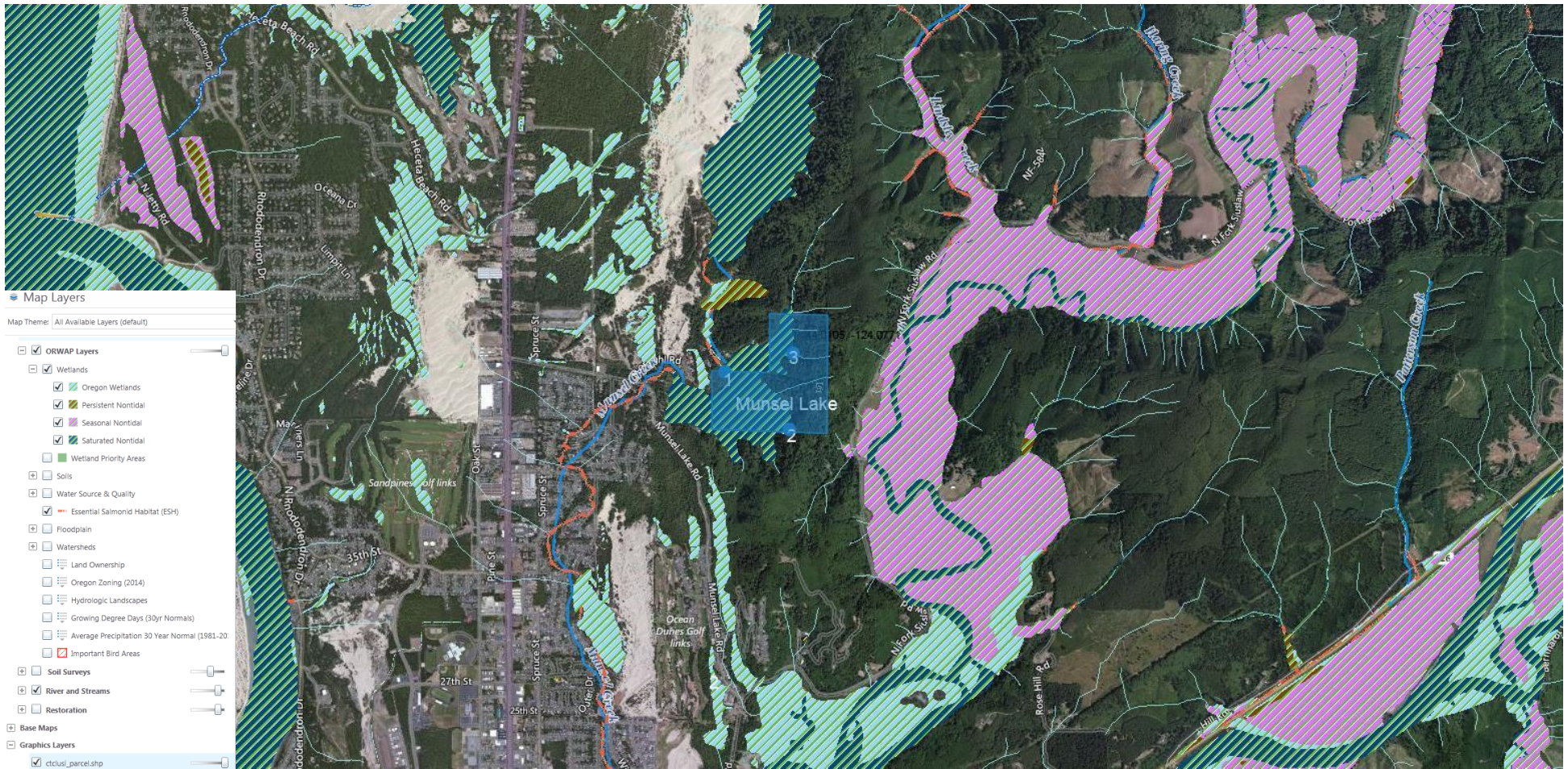
*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

Environmental Issues Associated with these Wetlands:

During an on-site investigation of this tract, Misery creek appeared to be incised in some stream reaches and entrenched in others. Bank instability and erosion may be attributing to the sediment deposition observed in Misery Creek. Because this property lies in a valley, future logging endeavors conducted by the Siuslaw National Forest, which encompasses this property could be expediting soil erosion and attributing to the sedimentation observed in the creek. Agricultural practices occurring upstream may also be contributing a minute amount of sediment to the creek.

Restoration project development for this property should include removing non-native invasive species, especially Armenian blackberry, and planting native species that help stabilize the stream bank and capture/filter sediments to prevent further incisement/entrenchment. Future surveys should include intrinsic potential surveys for specific fish species, such as salmonids and lamprey, that were historically present in Misery Creek as well as fish surveys and fish passage barriers before restoration projects, which may include large woody debris placement, are developed and implemented.

Munsel Lake, Siuslaw Watershed; Bernhardt Creek-Siuslaw River Sub-basin



The Munsel Lake Tract is a 120 acre parcel located in Lane County along the eastern shore of Munsel Lake approximately three miles north and 1 mile east of the city of Florence, Oregon. While 48% of this tract is submerged, 40% of the terrestrial portion of the CTCLUSI's Munsel Lake Tract is characterized by hillsides that range in percent slope of between 50 to 75%. The headwaters for the Munsel Lake originate in Collard Lake, flow south through Clear and Ackerly Lakes, and into Munsel Lake via Clear Creek.

Approximately 2.19 acres of riverine wetland type (R4SBC), 0.034 acres of riverine wetland type R4UBH, and 105.87 acres of lake wetland type L1UBH are inventoried on this property according to the NWI.

Results from the Oregon Rapid Wetland Assessment tool point 1 revealed:

Presettlement Vegetation Class: Open Water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Water

Erosion Hazard: Not rated

Rare Species Score: 4.41

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool point 2 revealed:

Presettlement Vegetation Class: Sitka spruce-western hemlock

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Water

Erosion Hazard: Not rated

Rare Species Score: 4.41

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool point 3 revealed:

Presettlement Vegetation Class: Sitka spruce-western hemlock

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Water

Erosion Hazard: Not rated

Rare Species Score: 4.49

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

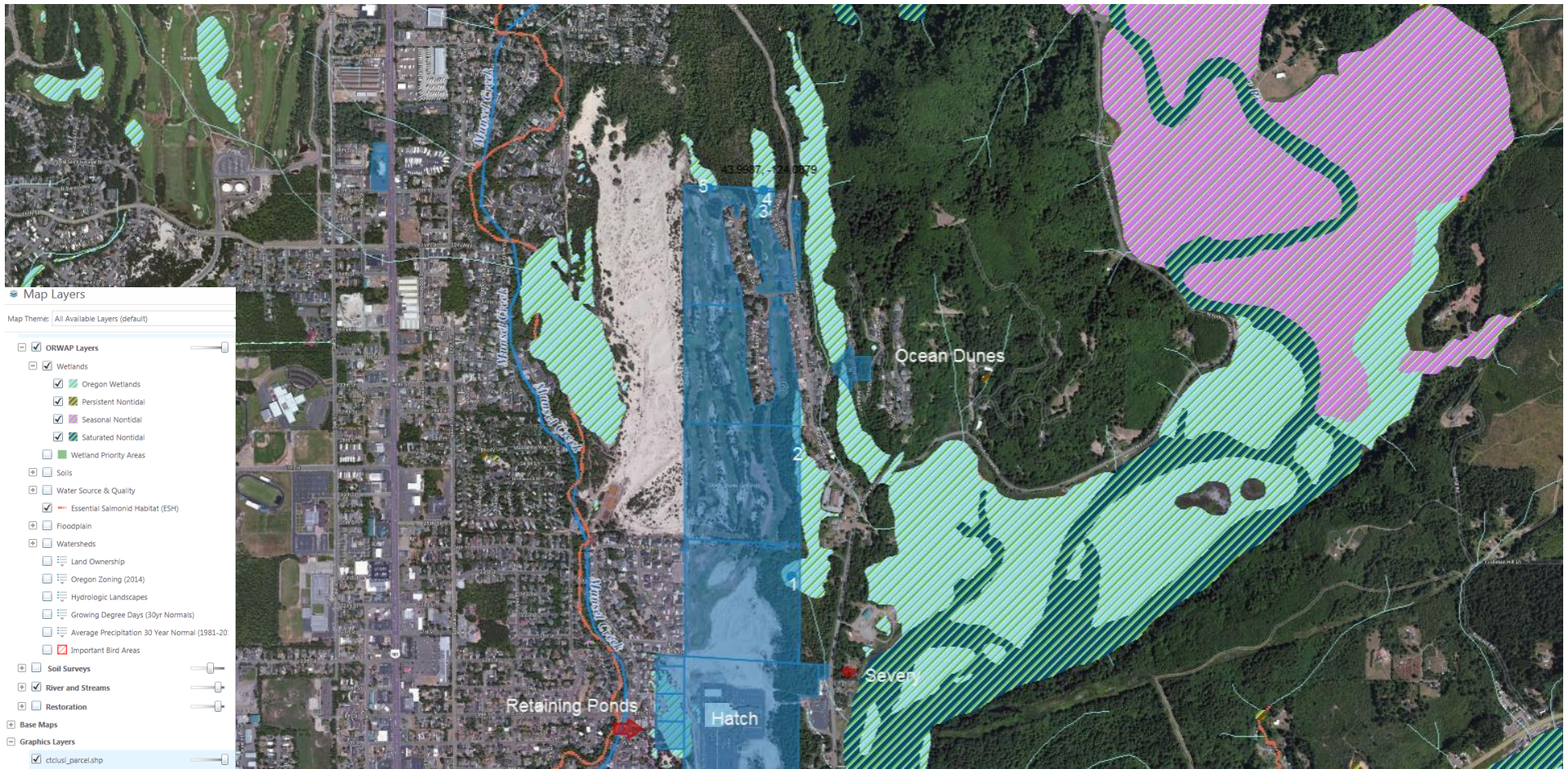
Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future. However, the following were evidenced as occurring from photos taken at the site:

- Red Alder (*Alnus rubra*)
- Dollar Pads (*Brasenia schreberi*)
- South Slough Sedge (*Carex obnupta*),
- *Carex Spp.*
- Sundew (*Drosera Spp.*)
- Labrador Tea (*Ledum groenlandicum*)
- Yellow Pond-lily (*Nuphar polysephala*)
- Wapato (*Sagittaria latifolia*)

Environmental Issues Associated with these Wetlands:

There are no real known environmental issues affecting wetland areas on this tract at this time. However, an increase in sediment and nutrient loading in the near future from increased recreation, shoreline properties, roads and /or failing septic systems compounded by climate change could lead to water quality degradation, eutrophication, and cyanobacteria blooms. An on-site investigation of this property revealed a few invasive species, including but not limited to *Charra spp*, *Najas spp*, *Isoetes spp*, *Potamogeton amplifolius*, and *Nymphaea odorato*. A more thorough on site investigation will need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species.

Ocean Dunes, Siuslaw Watershed; Lower North Fork Siuslaw River Sub-basin



The Ocean Dunes tract is a 135.70 acre parcel located in the city of Florence, Oregon and is home to the Ocean Dunes Golf Course. Hatch tract, another tract owned by the Tribes, is located due south as well as the Peterman tract, which lies directly adjacent to the Ocean Dunes Tract.

According to the National Wetlands Inventory (NWI), this property is comprised of approximately 1.31 acres of freshwater forested/shrub wetland type PFOC, 0.91 acres of freshwater forested/shrub wetland type PSSC, 1.91 acres of freshwater forested/shrub wetland, type PFOA, and 4 freshwater ponds (PUBH_x) totally 2.04 acres.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Shore Pine

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Waldport fine sand, 30 to 70 percent

Erosion Hazard: Severe

Rare Species Score: 3.59

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Shore Pine

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Yaquina loamy fine sand

Erosion Hazard: Slight

Rare Species Score: 3.59

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 3 revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Yaquina loamy fine sand

Erosion Hazard: Slight

Rare Species Score: 3.47

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 4 revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Yaquina loamy fine sand

Erosion Hazard: Slight

Rare Species Score: 3.47

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 5 revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Yaquina loamy fine sand

Erosion Hazard: Slight

Rare Species Score: 3.35

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future. However, the following were reported as occurring during an onsite visit of the property:

- Red Alder (*Alnus rubra*)
- *Carex Spp.*
- Labrador Tea (*Ledum groenlandicum*)
- *Juncus Spp.*
- Skunk Cabbage (*Lysichiton americanum*)
- Salmonberry (*Rubus spectabilis*)
- *Salix Spp*
- Cattail (*Typha latifolia*)

*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

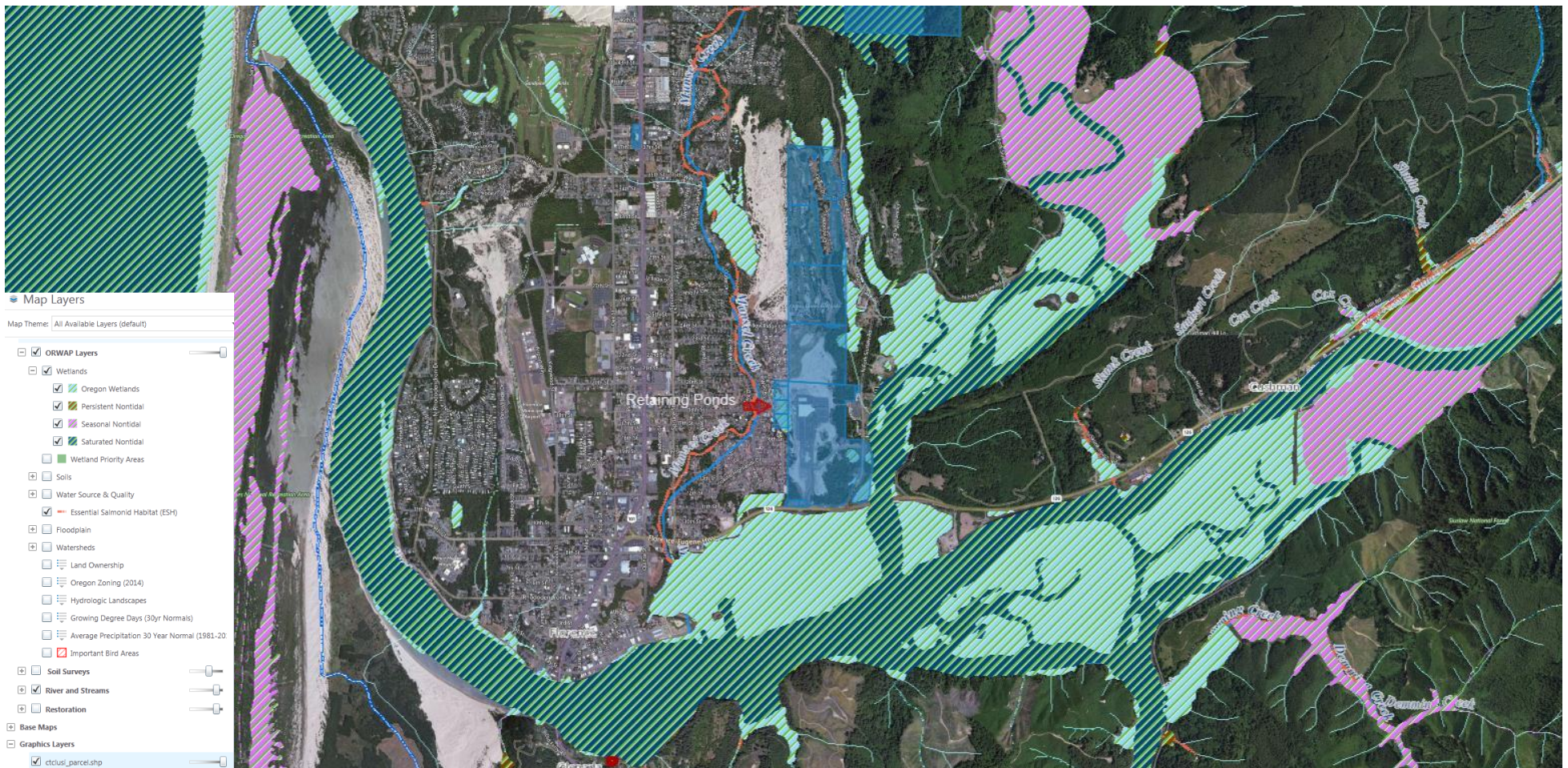
Environmental Issues Associated with these Wetlands:

During the last on-site investigation for this tract, non-native invasive species, especially gorse, scotch broom, Armenian blackberry, and European beach grass were found heavily interspersed throughout the track. An abundance of culturally significant wetland species was also present on this

tract. Other environmental concerns include excess nutrients from fertilizers and other contaminants used for lawn care that leach/runoff into the wetlands, which could lead to eutrophication and harmful algal blooms sedimentation.

Restoration project development for this property should include removing non-native invasive species and enhancing native wetland plant species that help to filter contaminants. Encouraging the Ocean Dunes Golf Course to utilize eco-friendly weed killers and fertilizers will also help to alleviate nutrient loading and contamination concerns in this wetland drainage.

Retaining Ponds, Siuslaw Watershed; Bernhardt Creek-Siuslaw River Sub-basin



The Retaining Ponds tract is composed of 4 separate parcels that total 7.05 acres. A small freshwater pond shared by the Qa'aich tract, which lies east of this tract, lies in the southern most parcels of the Retaining ponds tract and comprises about half of the tract. The rest of the tract is composed of sand dunes.

Approximately 3.06 acres of freshwater pond (PUSC) are inventoried on this parcel according to the NWI.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: River wash

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Heceta fine sand

Erosion Hazard: Slight

Rare Species Score: 4.58

Within a 100-yr floodplain: No

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: River wash

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Dune land

Erosion Hazard: Very Severe

Rare Species Score: 4.70

Within a 100-yr floodplain: No

Within 300ft of a Spring: Yes

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

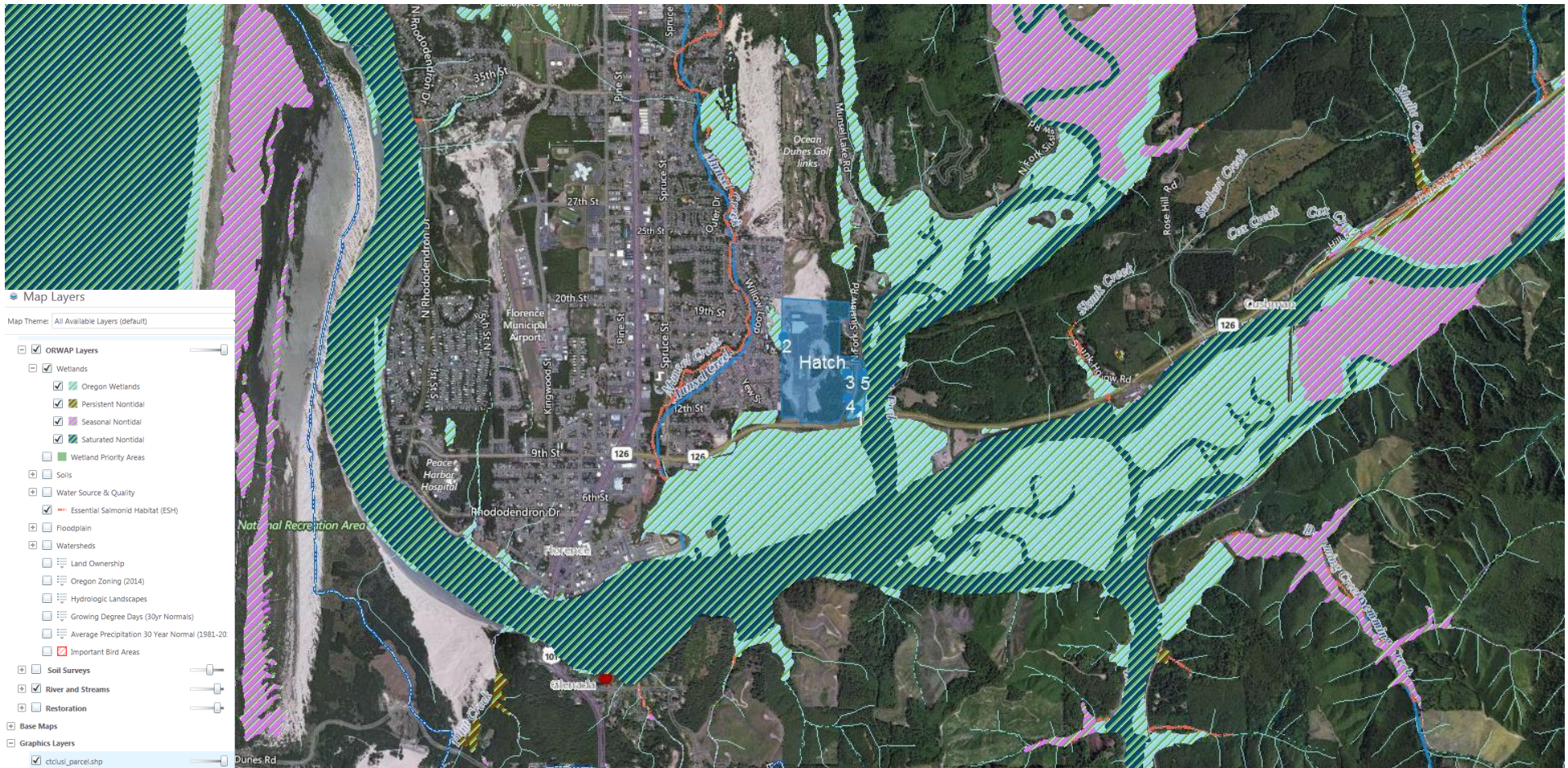
- *Carex Spp*
- Willow (*Salix Spp*)

*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

Environmental Issues Associated with this Wetland:

Illegal dumping has been a large environmental issue for this wetland. Dunal deposition has also greatly affected/altered wetland processes. Non-point source pollution mitigation implementation will be a key management strategy for this particular wetland.

Qa'aich, Siuslaw Watershed; Lower North Fork Siuslaw River Sub-basin



The Qa'aich tract is a 104.62 acre parcel located in the city of Florence, Oregon at the confluence of the Siuslaw North Fork River and the mainstem of the Siuslaw River. According to the Lane County Regional Land information Database, 57% of this tract is dune land and is characterized by “hummocky topography” as a result of sand dune deposition and deflation of the sand. Historically, this property was a traditional village site. During the middle of the 20th century, a small lumber mill was constructed as well as a bridge crossing over the North Fork of the Siuslaw River. Today, this property contains Three Rivers Casino and Hotel, a wastewater treatment plant, drinking water distribution, source water protection; wastewater irrigation; and multi-family residential housing.

According to the National Wetlands Inventory (NWI), this property contains a freshwater pond (PABF) that comprises approximately 2.82 acres, another freshwater pond (PUSC) that is shared with the Retaining Ponds tract owned by the Tribes comprising approximately 0.032 acres, and 7.06 acres of estuarine and marine wetland type E2EM1P.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Open Water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Brallier variant muck

Erosion Hazard: Slight

Rare Species Score: 2.37

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Riverwash

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Dune land

Erosion Hazard: Very Severe

Rare Species Score: 4.58

Within a 100-yr floodplain: No

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 3 revealed:

Presettlement Vegetation Class: Marsh/Wetland

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Waldport fine sand, 0 to 12 percent slopes

Erosion Hazard: Moderate

Rare Species Score: 2.34

Within a 100-yr floodplain: No

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 4 revealed:

Presettlement Vegetation Class: Marsh/Wetland

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Waldport fine sand, 0 to 12 percent

Erosion Hazard: Moderate

Rare Species Score: 2.37

Within a 100-yr floodplain: No

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 5 revealed:

Presettlement Vegetation Class: Open Water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Waldport fine sand, 0 to 12 percent slopes

Erosion Hazard: Moderate

Rare Species Score: 2.37

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

- Red Alder (*Alnus rubra*)
- *Carex Spp*
- Labrador Tea (*Ledum groenlandicum*)
- *Juncus Spp.*
- Skunk Cabbage (*Lysichiton americanum*)
- Yellow Pond-lily (*Nuphar polysephala*)
- Western Thimbleberry (*Rubus parviflorus*)
- Salmonberry (*Rubus spectabilis*)

- Willow (*Salix Spp*)

*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

Environmental Issues Associated with these Wetlands:

There are several wetlands that occur on this property. Point 1 and Point 5 mark tidally influenced wetlands that share many of the same environmental issues, including non-native invasive species and sedimentation and pollution accrued from nearby roadways. Illegal dumping has been observed on this portion of the Qa'aich tract. Point 2 marks a freshwater pond that is encumbered by illegal dumping and dunal deposition. Point 3 also marks another freshwater pond that is home to a plethora of culturally significant wetland species. This pond also suffers from sedimentation and pollution via the adjacent road as well as illegal dumping. The last point, point 4 marks a wetland that is inventoried by ORWAP but is not inventoried by the NWI and warrants further investigation as to the extent of the documented wetland. Non-point source pollution mitigation/management will be one of the top priorities to ensuring the health of these various wetlands. Non-native invasive species removal will also be an important management strategy.

Severy, Siuslaw Watershed; Lower North Fork Siuslaw River Sub-basin



The Severy tract is a 0.56 acre parcel located in the city of Florence, Oregon bordering the Northeast corner of the Tribes' Qa'aich tract. It is composed of a mixed stand of conifers and low-lying shrubs.

Approximately 0.18 acres of riverine wetland type (R5UBH) are inventoried on this property.

Results from the Oregon Rapid Wetland Assessment tool revealed:

According to the ORWAP, the Severy tract does not contain a mapped wetland. A more thorough onsite investigation has been suggested for this tract in the near future to determine the extent of the wetland for a wetland has, indeed, been evidenced during an environmental assessment of this property.

Wetland Plants Present at Time of Inventory and Assessment:

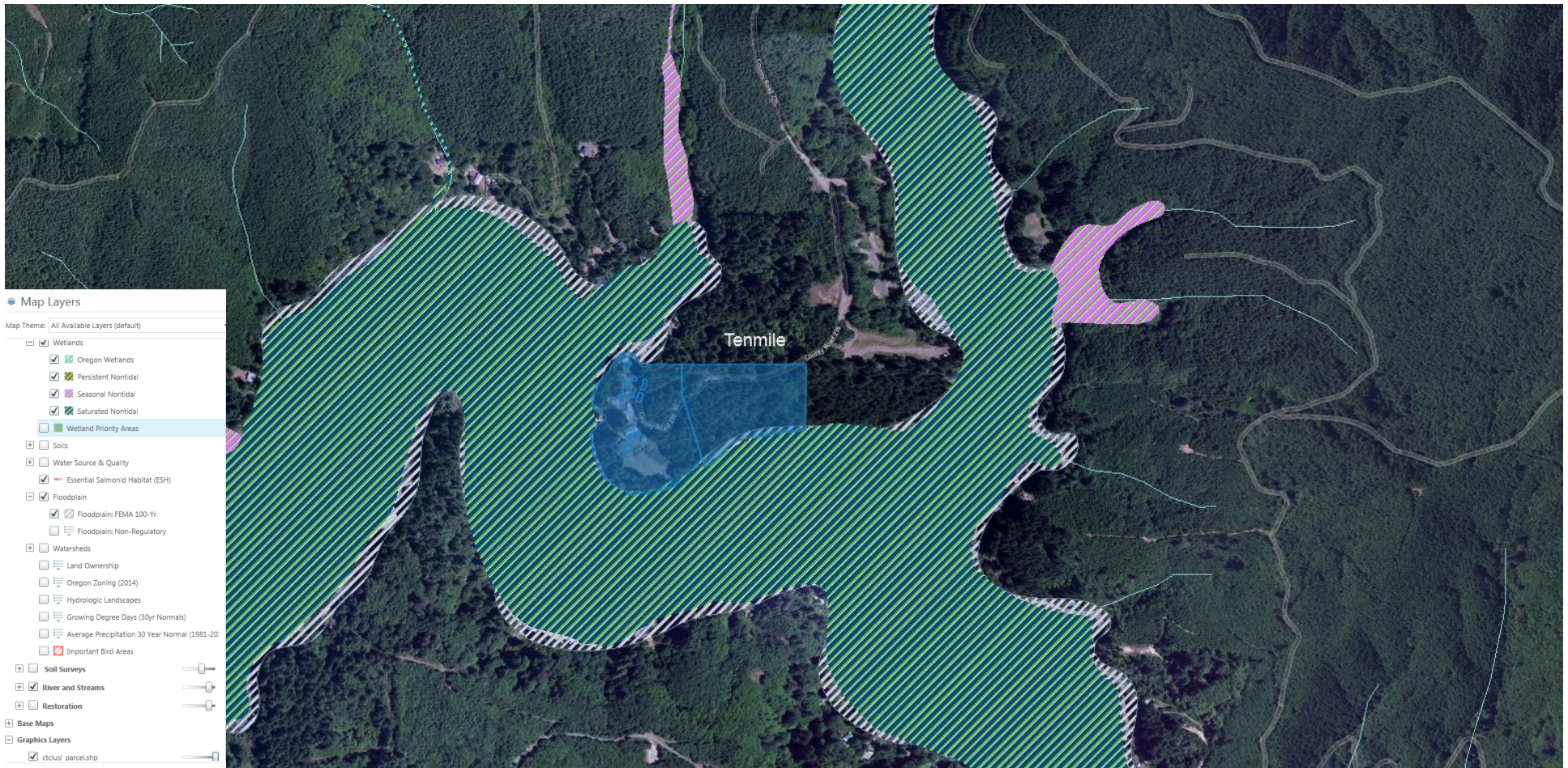
Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future. However, the following were reported as occurring during an onsite visit of the property:

- Skunk Cabbage (*Lysichiton americanum*)

Environmental Issues Associated with this Wetland:

The NWI shows that a creek that occurs on this property links the North Fork Siuslaw River and a freshwater forested/shrub wetland (PSSC) that partially occurs on the Tribes' Ocean Dunes Property just north of the tract into. Environmental concerns include excess nutrients from fertilizers and other contaminants used for lawn care that leach/runoff into the freshwater forested/shrub wetland, which could eventually make their way into the creek and ultimately, the North Fork Siuslaw River. Enhancement of native wetland plant species that help to filter contaminants/sediments may prove beneficial in the reduction of toxins that reach the North Fork Siuslaw River. Encouraging the Ocean Dunes Golf Course to utilize eco-friendly weed killers and fertilizers will help to alleviate nutrient loading and contamination concerns in this wetland drainage.

Tenmile, Coos Watershed; North Tenmile Lake Sub-basin



The Tenmile Lake tract is a 14 acre parcel that borders North Ten Mile Lake in Coos County, OR. A mixed stand of western hemlock, Douglas fir, and cedar are found throughout the property. The site includes the original residence, which was built in 1948, along with a lodge, 5 cabins, staff and guest facilities, 2 boat dock buildings, storage and workshop buildings, a pavilion, and a small barn. Most of the buildings were constructed in the 1970's and the boat houses were built in 2006. Some buildings are still in the process of being remodeled or removed.

According to the NWI, this property is comprised of 0.15 acres of freshwater emergent wetland type PEM1C adjacent to the boat dock buildings.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Open Water

Soils: Salander silt loam; 2 to 30 percent slopes; Millicoma-Templeton Complex

Erosion Hazard: Severe

Rare Species Score: 1.65

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Douglas fir

Soils: Water

Erosion Hazard: Not rated

Rare Species Score: 1.95

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

- South Slough Sedge (*Carex obnupta*)

- *Juncus spp*
- Pennyroyal (*Mentha pulegium*)
- Yellow Pond Lily (*Nuphar lutea*)
- Silverweed (*Potentilla anserina*)
- Reed Canary Grass (*Phalaris arundinacea*)
- Cattail (*Typha latifolia*)

*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

Environmental Issues Associated with this Wetland:

Introduced non-native invasive aquatic species, including plants and fish coupled with decreasing water levels attributed to consumptive use and climate change, warming water temperatures, and altered/degraded habitat due to sedimentation and lakefront property development have exasperated the native populations of salmonids and other anadromous fish species, including lamprey, in Tenmile Lakes. Also, heavy nutrient loading from farms and septic tanks from residential homes is contributing to eutrophication and toxic algal blooms, which could pose a potential health hazard to aquatic life and Tribal members. Oil and fuel that leaks from boats that traverse the lake could also pose a potential health hazard to aquatic and terrestrial life.

Restoration project development for this property should include removing non-native invasive species, especially warm water fish and invertebrate species such as bass, bluegill, and yellow perch, brown bullhead catfish, crappie, mosquito fish, and swamp crayfish. Purple loose strife, reed canary grass, *Egeria densa*, scotch broom, and Armenian blackberry are but a few of the non-native invasive plant species that are found in the Tenmile Lakes sub watershed. Removal/mitigation of these non-native flora and fauna and recruitment/enhancement of native populations of aquatic and terrestrial species will prove crucial to the rehabilitation of this degraded coastal lake. Collaborating with the local watershed and Tenmile Lakes' residents will be essential in future restoration endeavors. HAB monitoring will remain a priority until restoration/mitigation efforts have proven successful in the reduction of blooms.

Kentuck Slough, Coos Watershed; Coos Bay Sub-basin



The Kentuck Slough Tract is a 0.12 acre parcel located north and east of North Bend, OR on Kentuck Slough, which is a tributary that flows into the Upper Coos Bay Subsystem, in Coos County.

0.022 acres of freshwater emergent wetland type PEM1R as well as 0.01 acres of riverine wetland type R5UBFx, 0.056 acres of riverine wetland type R1UBV, and 0.0058 acres of R5UBH occur on this tract according to the NWI.

Results from the Oregon Rapid Wetland Assessment tool revealed:

Presettlement Vegetation Class: Marsh Wetland

Soils: Water

Erosion Hazard: Not Rated

Rare Species Score: 1.79

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

- Reed Canary Grass (*Phalaris arundinacea*)
- *Salix spp.*

**Unfortunately, this wetland is dominated mostly by non-native invasive species. A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year.*

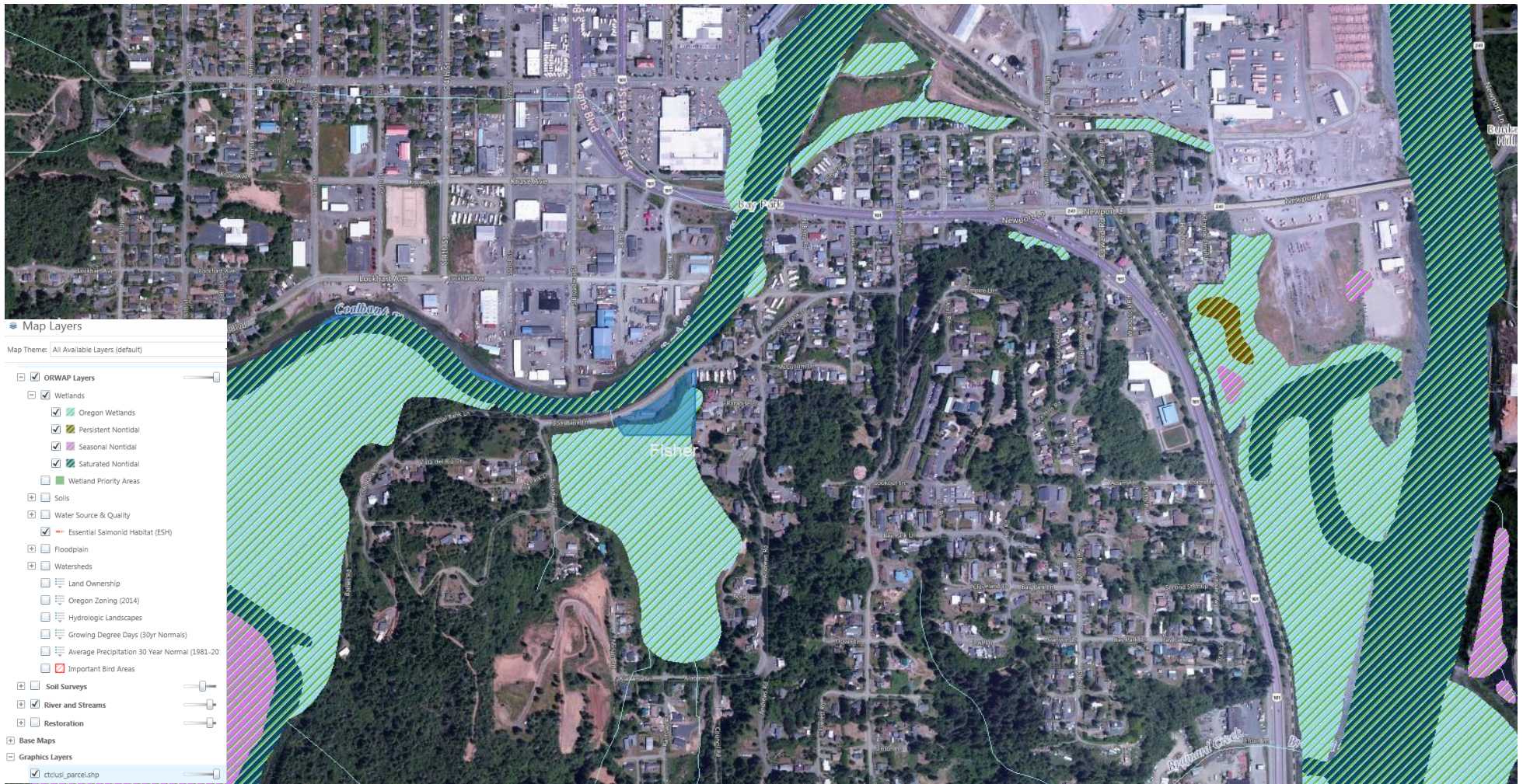
Environmental Issues Associated with this Wetland:

The installation of tide gates, dikes, levees, berms, etc for agricultural and residential developmental purposes in floodplain areas at the turn of the century has greatly impacted water quality, channel morphology, and overwintering habitat for juvenile salmonids. Also, during the 1950's, ODFW reported that 2 rock quarries and a saw mill located in the upper reaches of the Kentuck Sub-basin greatly contributed sedimentation to the system. In February of 1986, a landslide occurred on property owned by Main Rock Products, Inc. A large amount of overburden material from the quarry moved downslope across the county road and into Kentuck Creek about 5 miles upstream from where Kentuck Creek enters Coos Bay through a tidegate. Extreme sedimentation and turbidity from this landslide compounded with the removal of adjacent wetland areas for

developmental/agricultural purposes the diversion of creeks/streams in the Kentuck sub-basin for irrigation, domestic use, and/or the filling of ponds greatly curtailed/eliminated salmonid production in the lower 5 miles of Kentuck Creek stream.

Restoration project development for this property should include removing non-native invasive species, especially Armenian blackberry and reed canary grass, and planting native species that help stabilize the stream bank and capture/filter sediments. Large woody debris placement may also be beneficial for gravel retention and bedload recruitment. Encouraging landowners within the floodplain to allow their lands to be inundated and reconnect floodplain connectivity during off season production where appropriate may prove vital to the reestablishment of overwintering habitat for juvenile salmonids and other anadromous fishes. Collaborating with stakeholders, private landowners, private industry and the BLM and/or Forest Service will be essential to the rehabilitation of the Kentuck sub-basin and the return of salmonids and other anadromous fishes.

Fisher, Coos Watershed; Isthmus Slough Sub-basin



The Fisher tract is a 2.24 acre parcel in Coos County located southeast of Coalbank Slough and approximately 3000ft south of the southern end of Coos Bay, OR. Historically, this wetland was ditched and dredged as evidenced by the berm that lies adjacent to the building that lies on this tract. Today, a small reach of Coalbank Slough located immediately west of the tract flows into a salt marsh just south of the tract through a culvert that lies under Coal Bank Ln. Freshwater inputs have been observed flowing into the south end of this same salt marsh.

According to the National Wetlands Inventory (NWI), this property is comprised of approximately 2.22 acres of estuarine and marine wetland type E2M1N.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Marsh/Wetland

Soils: Clatsop mucky peat

Erosion Hazard: Slight

Rare Species Score: 3.88

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Sitka spruce-western hemlock

Soils: Clatsop mucky peat

Erosion Hazard: Slight

Rare Species Score: 3.88

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Wetland Plants Present at Time of Inventory and Assessment:

- Lyngby's Sedge (*Carex lyngbyei*)
- South Slough Sedge (*Carex obnupta*)
- Dodders (*Cuscuta salina*)
- Tufted Hairgrass (*Deschampsia cespitosa ssp.*)
- Seashoe Saltgrass (*Distichilis spicata*)
- Creeping Spike-Rush (*Eleocharis palustris*)
- Red Fescue (*Festuca rubra*)
- Oregon Gumweed (*Grindelia stricta*)
- *Juncus spp*
- Skunk Cabbage (*Lysichiton americanum*)
- Silverweed (*Potentilla anserina*)
- American Glasswort (*Saliicornia virginica*)
- Willow *Salix spp.*
- Sea Arrow-grass (*Triglochin maritimum*)

Environmental Issues Associated with this Wetland:

During an on-site investigation of this tract, sediment deposition was observed, as well as a large scour pool, indicating that the exit culvert is undersized and restricts flow. Enlarging the culvert could prove advantageous in improving fish passage as well as enhancing estuarine salt marsh habitat for over wintering juvenile coho and other salmonid species.

On the northwest side of the slough lies the City of Coos Bay's Public Disposal and Recycling Center. There is a high potential for non-point source pollutants from this center to leach into the slough and salt marsh, which could affect the growth and survivability of several culturally significant

wetland species that are present within the slough and salt marsh lands of this tract. Monitoring for contaminants of concern post future restoration activities may need to be performed to ensure that Tribal resources aren't not being adversely affected and available for cultural use.

Wualach Complex, Coos Watershed; Coos Bay Sub-basin



The Wualach Complex is composed of 2 parcels that total 3.32 acres and are located immediately adjacent to the lower Coos Bay estuary tidelands on vegetatively stabilized sand dunes overlying an uplifted marine terrace. Historically, this tract was the former site of a Hanis Coos village. Unfortunately, during the 1850's, Tribal members were forcefully removed from their homes at gunpoint and detained by the US Military in fear that

they may join in the Rogue River Indian War. The property and cultural resources were seized and the cultural village was converted into a pioneer cemetery years later. The northern parcel of the complex has been reserved for use as a cultural site and historical cemetery.

Approximately 0.36 acres of estuarine and marine wetland type E2USN are inventoried on this property according to the NWI.

Results from the Oregon Rapid Wetland Assessment tool for this wetland revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Water

Erosion Hazard: Not Rated

Rare Species Score: 3.14

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland plant species inventory will need to be performed in the future.

Environmental Issues Associated with this Wetland:

There are no real known environmental issues affecting this wetland at this time. However, due to the changes in the drainage pattern of Coos Bay as a result of colonization and port development (i.e. dredging and dune stabilization caused by non-native invasive European beach grass), sand is no

longer replenishing this dune sheet and is causing the coastline to recede. Potential environmental impacts to tidelands associated with this site are those associated with the overall estuarine habitat of Coos Bay.

Tribal Hall, Coos Watershed; Coos Bay Sub-basin



The Tribal Hall tract is a 6.12 acre parcel located in the Empire section of Coos Bay, OR. This tract was previously clear-cut by Robertson Timber Co. before it was gifted as reservation land to the Tribes by the Federal Government in 1940. Currently, the Tribal Hall tract houses Tribal Hall, the

Tribes' community center, playground, plank house, sweat lodge, community garden, and the newly built Three River's Casino Coos Bay. At the time of this assessment, a camping area for Tribal members was in the process of being constructed.

In the upper northwest corner of the property lies a freshwater forested/shrub wetland type (PSS1A) of approx. 0.57 acres according to NWI. However, recent development of the Three River's Casino Coos Bay to the east of this wetland area may have impinged on the wetland's boundaries and altered its ecology.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Bullards sandy loam, 0 to 7 percent slopes

Erosion Hazard: Slight

Rare Species Score: 3.11

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Sitka spruce-western hemlock

Soils: Bullards sandy loam, 7 to 12 percent slopes

Erosion Hazard: Moderate

Rare Species Score: 3.11

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland plant species inventory will need to be performed in the future.

Environmental Issues Associated with this Wetland:

During the last onsite investigation for this tract, it was noted that the Three Rivers Casino Coos Bay is near the boundaries of the freshwater forested/shrub wetland inventoried by the NWI. Further investigations will need to be conducted to determine if the quality and boundaries are or will be impacted by the current use of the property. Because this wetland occurs within a residential area, illegal dumping and camping occurs on a frequent basis. Future restoration improvements should include non-native invasive species and trash removal, and enhancement of native wetland species. A more thorough on site investigation will also need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species.

Fossil Point Complex, Coos Watershed; Coos Bay Sub-basin



The Fossil Point Complex is composed of three parcels that total 3.76 acres and are located northeast of Charleston, Oregon along Cape Arago Hwy and the eastern shoreline of the Coos Bay estuary, which is directly east of the Pacific Ocean inlet of Coos Bay. An intertidal fossil-rich marine terrace deposit of the Empire Formation is found in the intertidal areas and contains fossils of marine mollusks and mammals. Fossil Point is located just south of the complex.

According to the National Wetlands Inventory (NWI), this property is comprised of approximately 2.06 acres of estuarine and marine wetland type E2EM1N and 2.76 acres of estuarine and marine wetland type E2Us/ABM.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Open Water

Soils: Bandon sandy loam, 0 to 7 percent slopes

Erosion Hazard: Moderate

Rare Species Score: 4.44

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Shore Pine

Soils: Bandon sandy loam, 0 to 7 percent slopes

Erosion Hazard: Moderate

Rare Species Score: 4.04

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Wetland Plants Present at Time of Inventory and Assessment:

An initial inventory found the following species to be present:

- Red Alder (*Alnus rubra*)
- Field Horsetail (*Equisetum acicularis*)
- Oregon Gumweed (*Grindelia stricta*)
- Silverweed (*Potentilla anserine*)
- Salmonberry (*Rubus spectabilis*)
- Willow (*Salix spp.*)

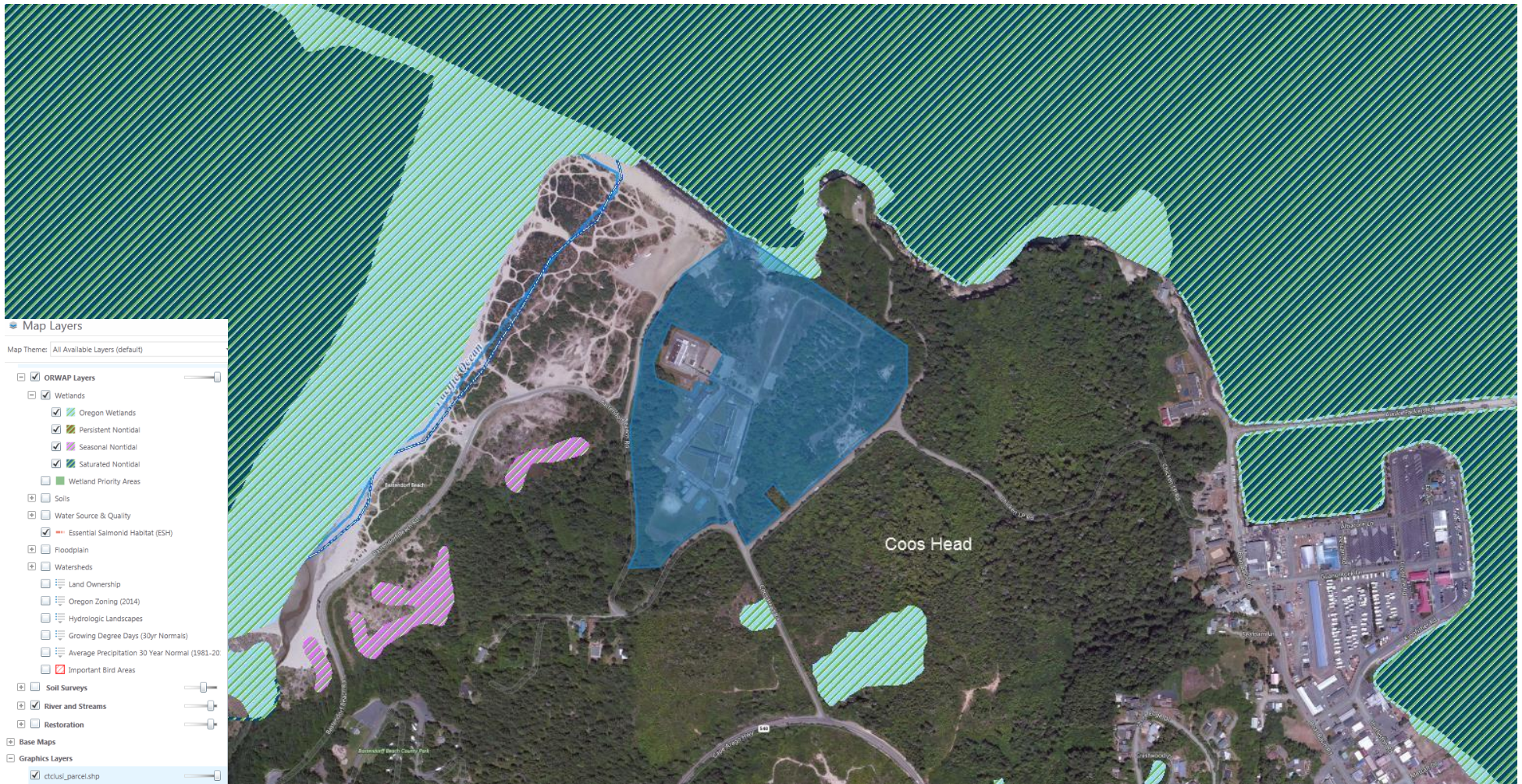
*A more thorough inventory of site specific plants will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year

Environmental Issues Associated with these Wetlands:

Shellfish gathered on and near this property (i.e. the bay) can contain elevated levels of saxitoxin, which is primarily associated with paralytic shellfish poisoning, as well as domoic acid, which is associated with amnesic shellfish poisoning. Consumption of high levels of either toxin can cause severe illnesses and even death. Sampling and testing for shellfish toxins may need to be instituted in the future to ensure that these traditional foods remain safe for tribal member consumption.

A more thorough on site investigation will need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species.

Coos Head, Coos Watershed; Coos Bay Sub-basin



The Coos Head Tract is 43.38 acre parcel located in Coos County, south of Charleston, OR adjacent to Bastendorf Beach. The western half of this tract consists of a few buildings that were previously used for storage and military operations as well as recreational and parking areas. The eastern half of the property is mainly dominated by coniferous trees, especially shore pine.

According to the NWI, this tract is composed of 0.093 acres of estuarine and marine wetland type E2RSN_r, 0.36 acres of estuarine and marine wetland type E2RSN, 0.066 acres of estuarine and marine wetland type E2USN, and 0.067 acres of estuarine and marine wetland type E2USP.

Results from the Oregon Rapid Wetland Assessment tool revealed:

Presettlement Vegetation Class: Sitka spruce-western hemlock

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Heceta –Waldport fine sands, 0 to 7 percent slopes

Erosion Hazard: Slight

Rare Species Score: 3.96

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: Yes

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future.

Environmental Issues Associated with these Wetlands:

There are no real known environmental issues affecting wetland areas on this tract at this time. A more thorough on site investigation will need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species.

Baldich, Coos Watershed: Big Creek-Frontal Pacific Ocean



The Baldich tract is a 31 acre parcel located in Coos County on an uplifted marine terrace along the Southern Oregon Coast approximately two miles south of the mouth of Coos Bay and consists of Gregory Point and Chief's Island. The uplifted marine terrace consists of a stratum of Pleistocene beach deposits overlying less-permeable Coaledo Formation sandstone. Wave energy excludes abundant/diverse hard substrate communities in the high energy rocky intertidal and subtidal areas on this tract.

Approximately 1.09 acres of estuarine and marine wetland type M2USN, 1.77 acres of estuarine and marine wetland type M2RSN, 0.55 acres of estuarine and marine wetland type M2USP, and 3.85 acres of freshwater forested/shrub wetland type PFOC are inventoried on this property according to the NWI.

Results from the Oregon Rapid Wetland Assessment tool for point 1 revealed:

Presettlement Vegetation Class: Open water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Blacklock fine sandy loam, 0 to 3 percent slopes

Erosion Hazard: Slight

Rare Species Score: 2.10

Within a 100-yr floodplain: No

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 2 revealed:

Presettlement Vegetation Class: Open water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Beaches

Erosion Hazard: Very Severe

Rare Species Score: 2.10

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 3 revealed:

Presettlement Vegetation Class: Open Water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: Blacklock fine sandy loam, 0 to 3 percent slopes

Erosion Hazard: Slight

Rare Species Score: 2.10

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Results from the Oregon Rapid Wetland Assessment tool for point 4 revealed:

Presettlement Vegetation Class: Open Water

Rare wetland Type (within 1 mile): Bog or Fen (Non-serpentine)

Soils: No information

Erosion Hazard: Slight

Rare Species Score: 2.10

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Special Protected Area

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future. However, the following were reported as occurring during an onsite visit of the property:

- Red Alder (*Alnus rubra*)
- Bracken Fern (*Pteridium aquilinum*)

Environmental Issues Associated with these Wetlands:

There are no real known environmental issues affecting wetland areas on this tract at this time. However, the adjacent properties, particularly Sunset Bay and Bastendorf Beach, are tmdl listed for enterococcus and are closed for water contact recreation periodically due to exceedances in the beach action value for enterococcus (70 MPN). These exceedances have mostly been attributed to agriculture, failing septic systems, storm water runoff, and boating waste. Harmful algal blooms also continue to be an ongoing concern and affect traditional harvesting of razor clams, mussels, crabs, and other culturally significant shellfish species.

Currently, efforts are being made to build capacity that will provide services to Tribal members as well as the community to test for contaminants of concern that are found in shellfish that could affect human health prior to consumption/sale. Future mitigation efforts will include education and outreach programs that create awareness about the dangers of harmful algal blooms, bacteria, and contaminants of concern and what they can do as individuals to help reduce ocean pollution.

A more thorough on site investigation will need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species.

Sixes River, Sixes Watershed; Lower Sixes River



The Sixes River tract is a 1.25 acre parcel located on the south side of the lower mainstem of the Sixes River adjacent to milepost 2 on Sixes River Road in Curry County, Oregon. Sixes River is almost entirely situated within Curry County except for a small arm of the Upper Sixes Main-Stem sub-watershed that extends into Coos County, flowing in a westerly direction and terminating in the Pacific Ocean just north of Cape Blanco. Beaver creek enters the Sixes River just downstream of the tract. Forestry is the most dominant land use in the Sixes watershed, followed by grazing and agriculture in the lower portion of the basin.

According to the NWI, this property is comprised of approximately 0.07 acres of riverine wetland type R4SBC, 0.006 acres of riverine wetland type R3UBH, and 0.09 acres of riverine wetland type R5UBH.

Results from the Oregon Rapid Wetland Assessment tool revealed:

Presettlement Vegetation Class: Open Water

Soils: Riverwash

Erosion Hazard: Very Severe

Rare Species Score: 2.28

Within a 100-yr floodplain: Yes

Within 300ft of a Spring: No

Wetland Plants Present at Time of Inventory and Assessment:

Wetland plants were not inventoried during onsite investigations of this tract. A thorough wetland species inventory will need to be performed in the future. However, the following plants were observed during the last grab sample for nutrients:

- Maidenhair Fern (*Adiantum aleuticum*)
- Willow (*Salix Spp.*)
- Watercress (*Nasturtium officinale*)

Environmental Issues Associated with these Wetlands:

During the last on-site investigation of this tract, beaver dams were observed just upstream of the property, which seemed to be helping to dissipate stream energy and create deep pools and other complex habitats, including cold water refugia, which are beneficial to all salmonids and other fish species' life histories.

A more thorough on site investigation will need to be performed to inventory non-native invasive species as well as culturally significant wetland species, and rare, threatened and endangered species. Restoration project development for this property should include removing non-native invasive species, especially Armenian blackberry, reed canary grass, and Japanese knotweed, which was inventoried on the north bank of the river, and planting native species that help stabilize the stream bank, capture/filter sediments, reconnect floodplain connectivity, and provide habitat for overwintering juvenile salmonids and other fish species (i.e. lamprey). Large wood recruitment may also prove beneficial in providing habitat for salmonids and other fish species as well. Collaborating with local watersheds and adjacent land owners will be essential in future restoration endeavors.

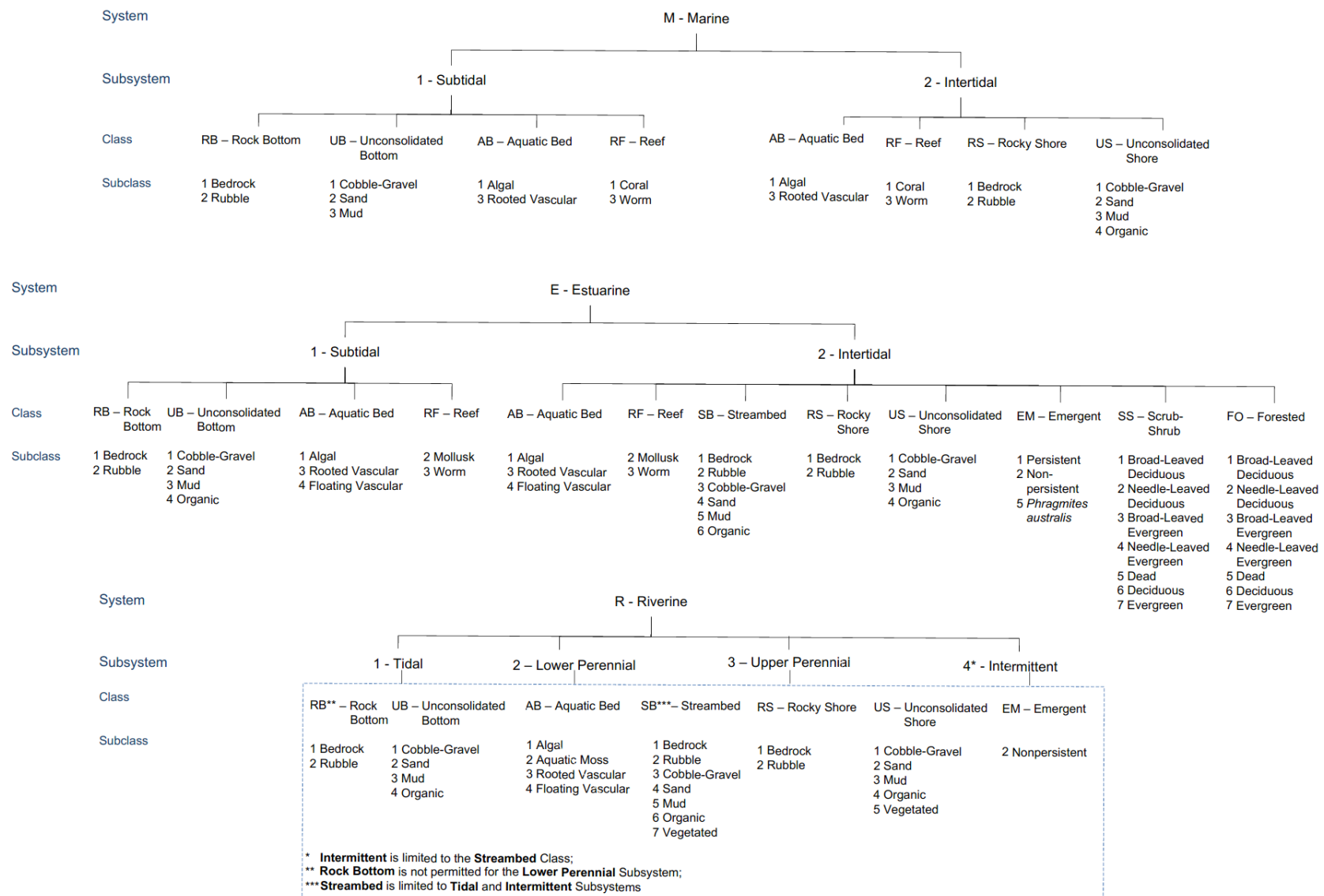
Conclusions

This Wetlands Inventory and Assessment has effectively and efficiently helped the Tribes locate wetlands that are scattered throughout the Tribes' 37 tracts and has also facilitated a preliminary assessment of the wetlands that exist on each of the properties identified through this wetland inventory. Onsite investigations revealed the extent to which some of these wetlands are impaired and which sites will need restoration and mitigation management for point and non-point source pollution, climate change, and other environmental factors. Unfortunately, approximately 70% of the wetlands identified are impaired, and of the 30 % that are not impaired, 75% of those wetlands are anticipated to become impaired overtime if strategic action plans are not developed and implemented, such as climate change adaptation strategies and point and non-point source pollution mitigation strategies. At this time, the Fisher property ranks as the highest priority for restoration.

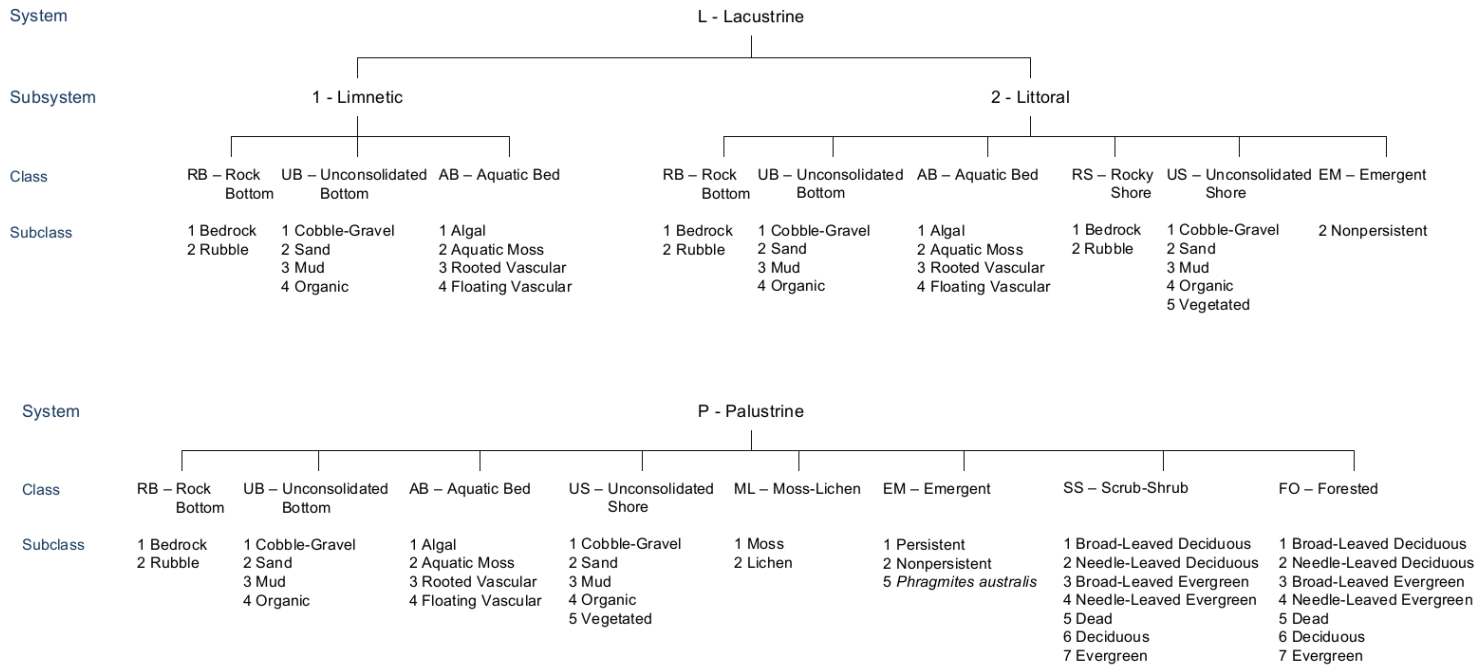
A more thorough inventory of site specific wetland species will need to be conducted to capture plants that may have been missed during this first initial inventory as some wetland plants present themselves at differing times of the year. Also, developing good relationships with adjacent land owners, partners, and stakeholders and providing outreach and education to the surrounding community about Tribal wetlands' importance to Tribal peoples and the watershed as well as the status of these wetlands will be vital to ensuring that these wetlands continue to provide their vital ecosystem functions and ecological/cultural services.

Appendix A

NWI Wetlands and Deepwater Map Code Diagram



NWI Wetlands and Deepwater Map Code Diagram



MODIFIERS						
In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy.						
Water Regime			Special Modifiers	Water Chemistry		Soil
Nontidal	Saltwater Tidal	Freshwater Tidal		Halinity/Salinity	pH Modifiers for Fresh Water	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded- Fresh Tidal	b Beaver	1 Hyperhaline / Hypersaline	a Acid	g Organic
B Seasonally Saturated	M Irregularly Exposed	Q Regularly Flooded-Fresh Tidal	d Partly Drained/ Ditched	2 Euhaline / Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	R Seasonally Flooded-Fresh Tidal	f Farmed	3 Mixohaline / Mixosaline (Brackish)	i Alkaline	
D Continuously Saturated	P Irregularly Flooded	T Semipermanently Flooded-Fresh Tidal	m Managed	4 Polyhaline		
E Seasonally Flooded / Saturated		V Permanently Flooded-Fresh Tidal	h Diked/Impounded	5 Mesohaline		
F Semipermanently Flooded			r Artificial Substrate	6 Oligohaline		
G Intermittently Exposed			s Spoil	0 Fresh		
H Permanently Flooded			x Excavated			
J Intermittently Flooded						
K Artificially Flooded						