GOVERNMENT ISLAND GRASSLAND MITIGATION PROJECT

DRAFT PLANNING DOCUMENT

PREPARED BY

PORT OF PORTLAND

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PROJECT BACKGROUND

In 2007, the Port of Portland (Port) and the City of Portland (City) began the three year planning process called Airport Futures that concluded in 2010. Airport Futures was a collaborative effort between the Port, City, and the Portland-Vancouver metropolitan community to create an integrated long-range development plan for the Portland International Airport (PDX). As part of Airport Futures, the City performed a Natural Resources Inventory (NRI) and an Economic, Social, Environmental, and Energy analysis (ESEE) for the Middle Columbia Corridor including the airport and Port owned properties. The results from the ESEE analysis were then used to make recommendations for implementing environmental overlay zones to protect significant resources.

While completing the Middle Columbia Corridor/Airport Natural Resources Inventory (MCCANRI) the City concluded that a number of airport properties should be designated as Special Habitat Areas because they support grassland-associated species, provide important breeding and foraging habitat and connectivity on an otherwise highly developed landscape, and at some locations support species identified as "at risk" by the City. The City's ESEE analysis determined that development on some of these Special Habitat Areas should be "limited." The limit decision is intended to balance the natural resource values and economic values and would typically be implemented through application of an environmental conservation ("c") overlay zone. Four of the properties that received a limit decision based on grassland habitat are airport properties that were purchased with federal funds for the specific intent of future airport development. These four properties are known as SW Quad, NE 33rd Field, Fuel Farm Field, and Deicing Field (shown in Figure 1).

The City has the option of implementing the limit decision through an agreement that achieves the intent of the decision. Through the Airport Futures planning process, and consistent with the recommendations of the Airport Futures Planning Advisory Group, it was determined that an Intergovernmental Agreement for Natural Resources was the preferred method for implementing the limit decision for grassland habitat. The Agreement was determined to be a more proactive and programmatic means of providing the Port the flexibility to meet the air transportation needs of the region while at the same time upholding our commitment to environmental stewardship (reference *Intergovernmental Agreement for the Natural Resources Related to the Airport Futures Project*, May 2011).

The Agreement requires that the Port mitigate for 300 acres of upland grassland resources in lieu of placing environmental overlays on the four properties totaling approximately 268 acres. The City has agreed to allow the Port to meet its mitigation commitment by enhancing upland grasslands on Government Island although the island is not within the City of Portland. The Agreement states that the first 50 acres of mitigation must occur in advance of any development on one or more of the four PDX properties identified in the Agreement. Future grassland mitigation on the island, above the initial 50 acres, would be triggered when development on the four properties is proposed to exceed 25 acres.

This planning document is a requirement of the Agreement between the City and Port. The Mitigation Framework (exhibit C of the Agreement) states that the Port is to prepare a draft planning document which will establish the overarching objectives for the entire 300 acres of grassland mitigation on Government Island. In addition, the Mitigation Framework states that the Port is to prepare a site specific mitigation plan for each phase of mitigation prior to the initiation of mitigation. As the site specific mitigation plans are developed they will become addenda to this planning document.

PROJECT PURPOSE AND COSTS

The purpose of the upland grassland mitigation on Government Island is to replace the natural resource functions identified in the MCCANRI that may be lost or further degraded when the four PDX properties are developed. Historically upland prairie and savannah habitats were common within the Columbia Slough watershed. Regionally these habitats have been reduced to less than one percent of their historic extent and are now defined as an imperiled habitat by Metro. The four Port properties have been heavily modified from their original native conditions as a result of decades of intensive land use, including agriculture and filling with Columbia River sands. Although these four properties are degraded and dominated by non-native and invasive vegetation they do provide a level of habitat function that resembles a native grassland or prairie. As described in the City's NRI the four PDX properties, in their current state, provide upland habitat that support a suite of grassland-associated wildlife in an urbanized environment. The properties are located within the Pacific Flyway which makes them an important stopover for migratory bird species. In addition, there has been documented use by species that have been designated by the City as "at risk." As such, these four properties, although degraded, have habitat significance that must, by the terms of the City's land use decisions, be replaced if they are developed.

The natural resources functions that will be targeted for enhancement on Government Island are specific to the structure of upland grassland habitat. The project will address upland grassland resource loss, not specific wildlife species diversity or abundance. It is assumed that once grassland habitat on the island is enhanced, target grassland associated species will utilize the habitat. However, usage by these species is not a requirement for the success of this mitigation effort.

The Agreement states that the cost for each 50 acre parcel of mitigation will be approximately $600,000. Each phase of mitigation will be developed so that the costs for planning, design, implementation, monitoring and maintenance will not exceed this cost estimate.

DESCRIPTION OF MITIGATION SITE

The Port has reserved 300 acres of land on Government Island for upland grassland mitigation purposes as required by the Agreement with the City. The 300 acres that have been proposed for the grassland mitigation will be a subset of the 316 acre site shown in Figure 2. Consistent with the principles of adaptive management outlined in the IGA, the 300 acres, as well as the individual mitigation sites, are subject to realignment based on site conditions and specific habitat mitigation objectives.

Government Island is part of an island complex made up of seven islands in the Columbia River northeast of Portland International Airport. Three of these islands (Government Island, Lemon Island, and McGuire Island) are under Port ownership excluding the eastern-most 200 acres of Government Island which is owned by Metro. Government Island is the largest of the islands (approximately 1900 acres) and is connected by a sand bar throughout most of the year to Lemon Island (approximately 130 acres). Lemon and Government islands are essentially one land mass except during high water when the connection between the islands is flooded.

In 1805, when what is now known as Government Island was encountered by Lewis and Clark, it consisted of three separate islands. By 1902 when it was surveyed by the U.S. Coast and Geodetic Survey, natural sedimentation had merged the three islands into one. Prior to the diking, dredging and

damming of the Columbia River, the adjacent floodplains and islands were inundated annually during winter floods and spring freshets. The islands were historically higher areas on the numerous shoals in the Columbia River. Survey maps from the mid-1800s show that the river in the Portland-Vancouver reach was a complex of shallow shoals and bars, with no clear navigable channel. In the late 1800's a navigation channel was dredged in the river and the dredge materials were placed on the shores of the islands. In 1917 the Multnomah County Drainage District was established to construct levees along the river. Then in 1937 the Bonneville Dam was constructed. These changes to the river for flood control and power generation greatly altered the historic hydrology of the Columbia River and changed the ecology of the island by isolating the historic floodplain from the river and significantly changing the river's hydrograph.

The island has been managed for multiple purposes since the influx of European settlers in the 19th century. The first documented agricultural/pastoral use of the islands by Europeans dates back to the Hudson Bay period from 1824 to 1849. Their records indicate that pasturage was cut on the main island to feed ox teams at the company logging camp/sawmill located on the mainland north shore across from the island. In 1850 the U.S. government used the island to raise hay for government horses at Fort Vancouver which is how the island received its current name. By 1870 there was one ranch on the island and by the 1930's there were five families living on the island engaged in small dairy farming and raising cattle. In the 1950's the State Game Commission purchased the land and took over the island. The island was managed by the State Game Commission until the Port took ownership of it in 1969. Today the Port owns all but the eastern-most 200 acres of the island. Due to the extensive recreational usage on the island shores the Port entered into a long-term agreement with Oregon State Parks and Recreation Department (OPRD) in 1999 and portions of the island have been managed for recreation since that time. Not all areas of the island have been used for recreation historically, and OPRD has continued to exclude the public from large portions of the interior.

Government Island remains primarily undeveloped except for a few remnant buildings that were associated with one of the ranches on the island. The interior of the island is made up of a mix of habitat types including forest, wetlands, and open fields. The Port-owned portion of Government and Lemon Islands consists of roughly 700 acres of forest, 200 acres of dense Himalayan blackberry, 430 acres of wetland mitigation, and 640 acres of open weedy fields (Figure 3). Cattle were grazed on the island under an agricultural lease until 2007 when they were all removed except two bulls that remained on the island until 2010. The island contains a wetland mitigation site called Jewett Lake that served as mitigation for wetland impacts at PDX SW Quad (one of the four properties covered by the new Airport Futures Agreement). The 426-acre Jewett Lake mitigation site is allowed to flood when river levels exceed 10.4 NGVD through a water control structure located on the north side of the island that is maintained by the Port. In some years higher river levels inundate island edges and low spots, but the majority of the island does not flood.

The Port of Portland periodically inventories its property using a method called the natural resource inventory (NRI). The Port's NRI is used to inventory and track land cover and land use including development, wetlands, vegetation types, and other natural resources that are at least 400 square feet in area. The NRI protocol was developed based on the broad regional wildlife habitat classification developed by Johnson and O'Neil (2001). The most recent inventory of Government Island was completed in 2007. The 2007 inventory divided the land cover on the island into 19 classes which are listed in the following table and are shown in Figure 4.

Classes	Acres
Blackberry Scrub-Shrub	203.03
Conifer (Planted)	0.11
Cottonwood	368.98
Cottonwood, Willow Scrub-Shrub	148.98
Cottonwood, Willow, Ash Forest	177.38
Developed – Cultivated	0.42
Developed – Impervious	0.45
Ditch	0.82
Hardwood	2.98
Herbaceous Upland	172.64
Hydrophytic Vegetation	250.55
Pervious Wasteland/Barren/Weedy Fill	31.86
Pond	11.04
River Beach (Modified/Protected)	6.41
River Beach (Natural)	56.70
Road – Dirt	2.16
Stream	0.51
Unimproved Pasture - No Active Management	435.23
Water Related Structure	2.54
Total	**1873.03**

The bulk of the 300 acre grassland mitigation reserve is classified as unimproved pasture with areas of blackberry scrub-shrub and herbaceous upland interspersed. There are some stands of cottonwood, willow and ash trees within the mitigation area which will not be removed during the grassland mitigation project. The 300-acre site was selected because it was the largest area on the island without dense forest that was not already part of the Jewett Lake mitigation site. Converting existing forest to grassland was not considered a valid option for this mitigation project because it is already providing a different type of significant habitat.

The 300 acres reserved for grassland mitigation, can be generally described as degraded, and are composed primarily of open weedy fields that are dominated by non-native and invasive species such as pasture grasses, Himalayan blackberry, Canada thistle, and teasel. These 300 acres are included in the OPRD agreement. Public access is limited primarily to the beaches along the perimeter of the island; access to the interior portions of the island, including the 300 acre mitigation site, is restricted to access by special use permit only. OPRD management limits recreation primarily to the beaches and continues the Port's historic practice of excluding access to most of the interior. OPRD maintains much of the interior portions of the island through mowing and the control of noxious weeds. As the mitigation project moves forward, the Port will continue to partner with OPRD to address new management practices for the grassland mitigation sites.

Overarching Mitigation Objectives

Often referred to as "grasslands", native prairie associations are actually dominated by seasonally conspicuous perennial forbs and perennial bunchgrasses. In the Pacific Northwest, most of the diversity of these "grassland" associations is provided by perennial forbs with only a few native grass species

represented. Upland prairies typically occur on well-drained silty loam alluvial soils similar to those on Government Island. Prairies are dynamic systems that readily and continuously undergo succession to more complex woody associations (scrub-shrub, savannah, woodlands) without regular recurring disturbance. In the Willamette Valley, prairie associations were maintained primarily by anthropogenic fire. On an island site in the Columbia River however, the disturbance ecology was likely regular recurring flood freshets, with post European settlement introducing pasturage and cattle grazing disturbances.

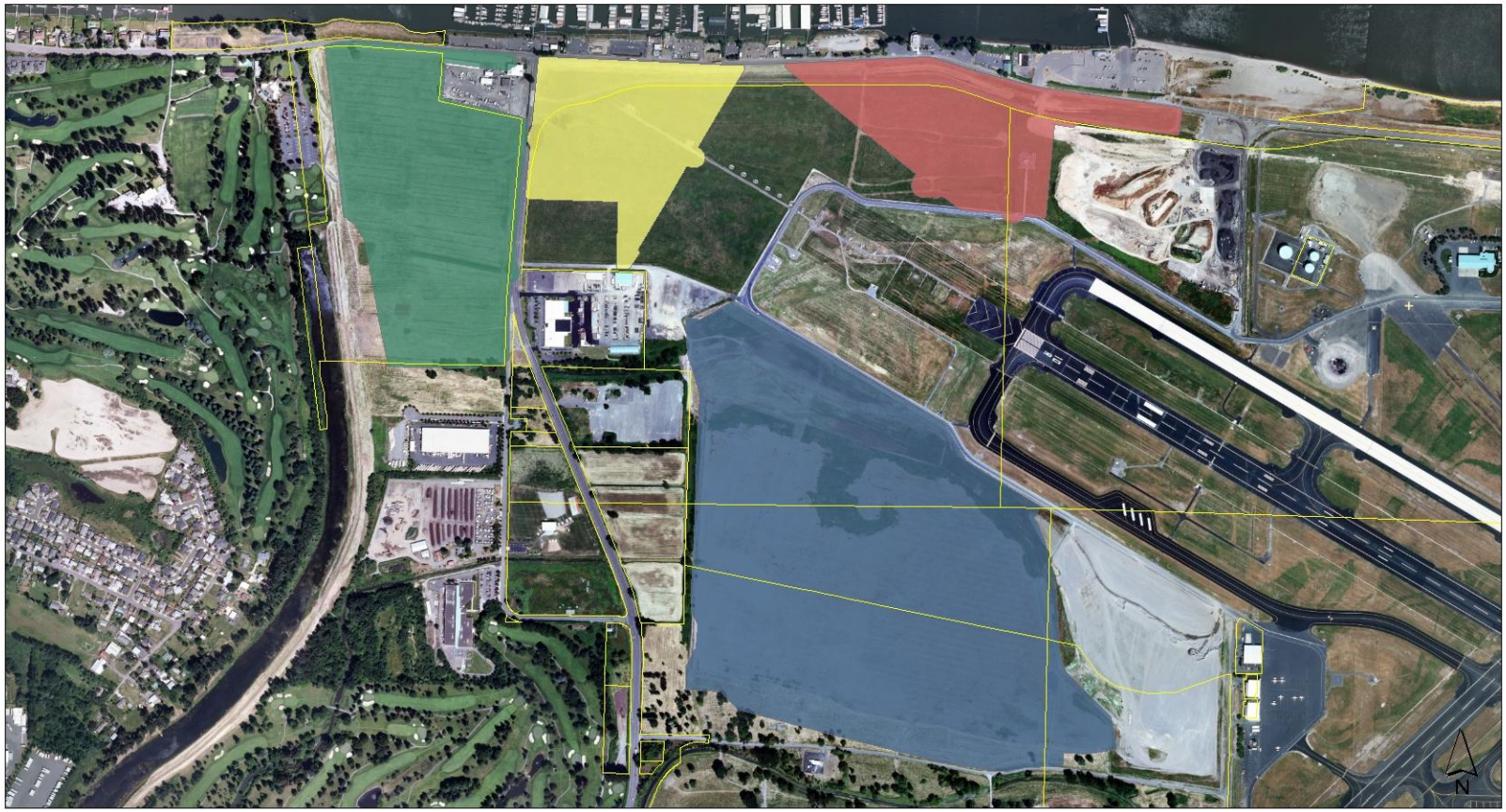
It is important to make the distinction that the proposed project is not technically "restoration" per se, as the primary historic disturbance regime (river hydrograph) has been significantly altered by the damming and diking of the Columbia River system. The historic condition of the proposed mitigation site is therefore one of conjecture. Given current knowledge of the ecological dynamics of an island in an active unfettered river system, Government Island was likely a wet prairie association subject to regular winter and spring freshets. However, the construction of the Columbia River levee system and the federal Columbia River hydropower complex transformed the island into an upland site that lacks the natural disturbance necessary for maintaining the prairie community composition and structure. The intent of the mitigation project is to establish a prairie community composition that will be appropriate to the current site conditions and will be sustainable over time with the appropriate management prescription and within the budget described in the Agreement.

The following is a list of general objectives for grassland mitigation within the 300 acre reserve on Government Island:

a) Enhance, create and maintain site conditions that support grassland-associated wildlife species.
b) Enhance, create and maintain expansive, contiguous grassland habitats with recognition that ecological function increases with size in grasslands.
c) Promote a grassland mosaic with forbs, grasses, and varied vegetation density and early successional stages.
d) Promote landscape conditions with no tree cover and minimal woody stemmed shrubs.
e) Consider ecological context of Government Island as a riverine island in the Mitigation Plan.
f) Promote or introduce natural processes and management actions that maintain disturbance regimes.
g) Establish native species to the extent practicable.
h) Promote and support the Airport and regional aviation safety and risk management strategies, such as those in the Airport's Wildlife Hazard Management Program.

In addition to these general goals, the Port intends, to the extent practicable, to establish a site that is characterized by native prairie vegetation with plant diversity. The plant species will be selected to attract and maintain native pollinator species that are experiencing significant declines locally. The plantings will also be selected to provide the structure and function necessary to provide the habitat requirements for other grassland associated species. The specific standards that will be used to measure the success of the mitigation project will be determined in the site specific mitigation plans through an adaptive management process. The first 50 acres of mitigation will be completed as a field trial to determine what standards can reasonably be met. In addition, the field trial will determine what methods are most efficient for enhancing grasslands on the Island.

Following completion of this draft planning document, the Port will begin development of a site specific mitigation plan for the first 50 acres. The remaining mitigation plans will be developed as predetermined thresholds of development are reached on airport properties as identified in the IGA.



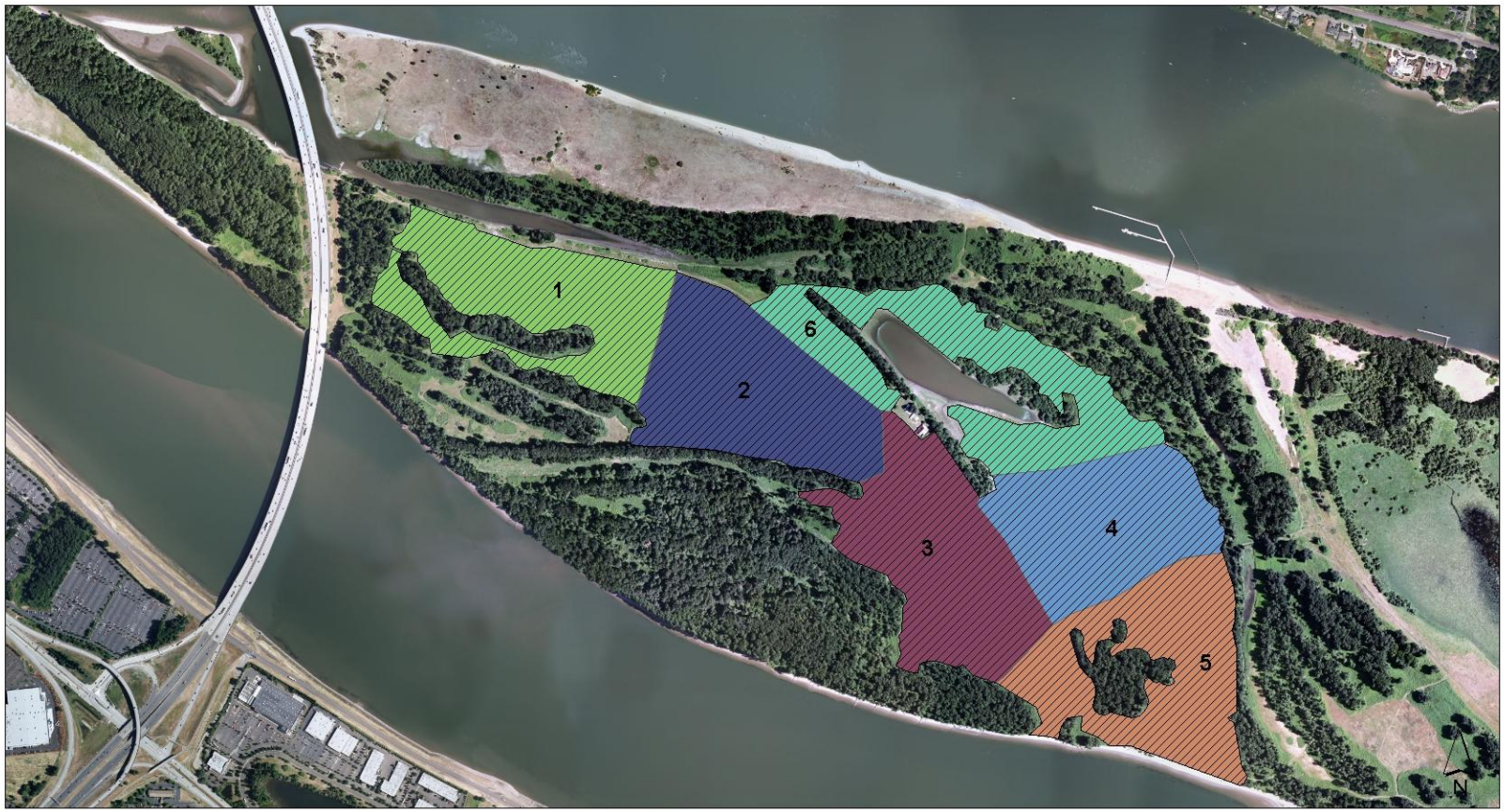
Port of Portland

0 1,000 2,000 Feet

Deicing Field
Fuel Farm Field
NE 33rd Field
SW Quad

Port Tax Lots

Figure 1
Four PDX Properties



Port of Portland

0 0.25 0.5 Miles

53 acres
56 acres
57 acres
49 acres
53 acres
50 acres

Grassland Mitigation Area
(316 acres)

Figure 2
Government Island
Upland Grassland Mitigation Area

Figure 3
Habitat Types on
Government Island

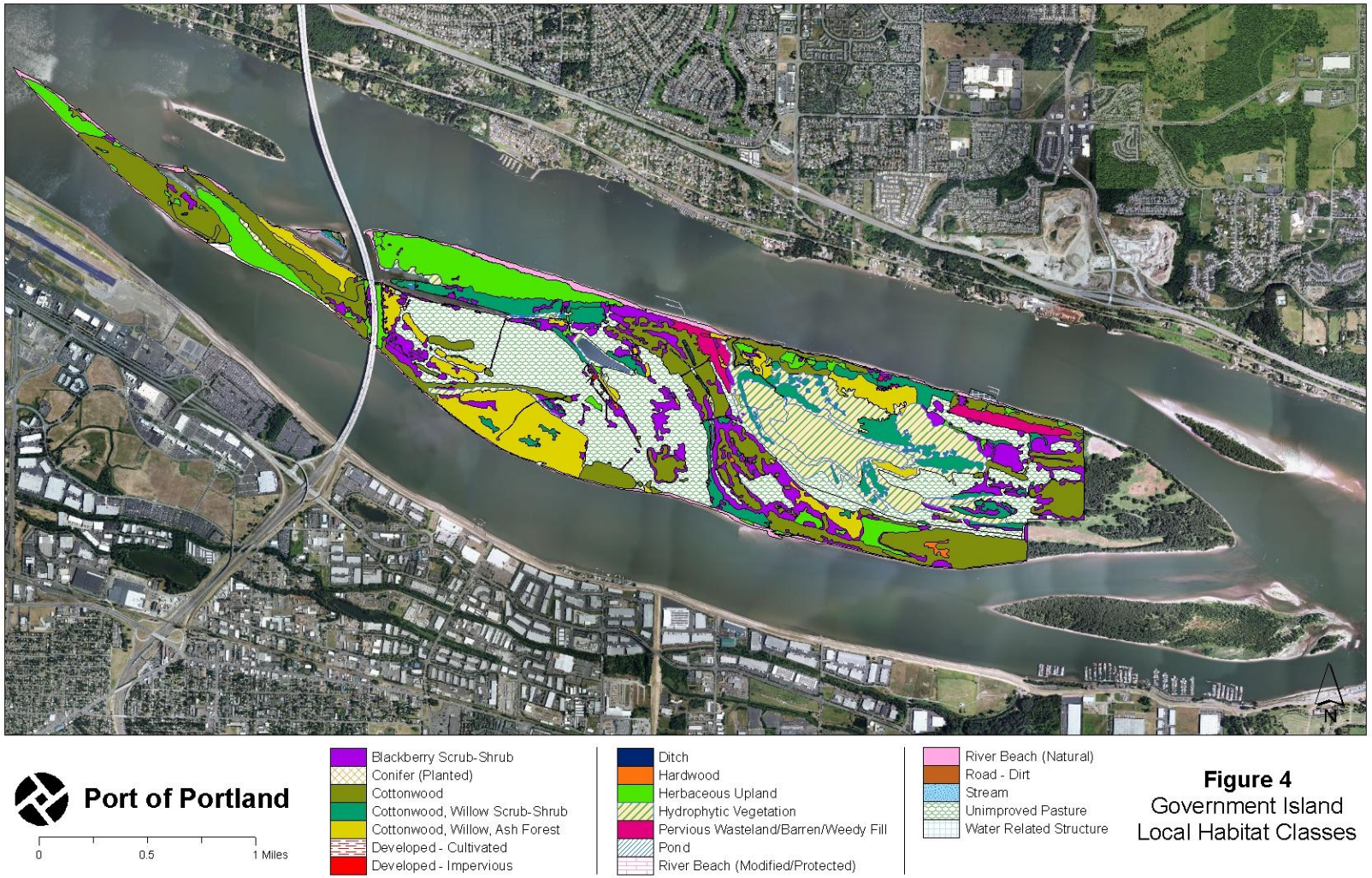


Figure 4
Government Island
Local Habitat Classes