Coffee Lake Creek Wetlands

Approvals for Site Conservation Plan

Date routed for final signatures: 12/19/18

Please return to Lori Hennings (Primary author: Curt Zonick)

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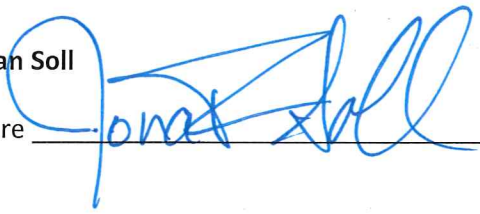
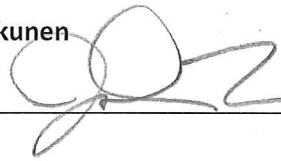
Signature  Date 1-7-2019

Justin Takkunen

Signature  Date 1/24/19

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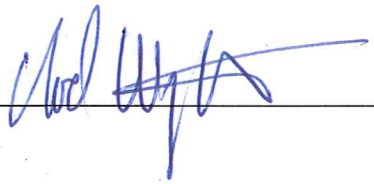
Signature  Date 1.17.19

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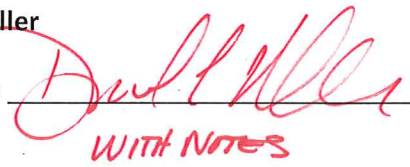
Signature 
WITH NOTES

Date 2/12/19

SITE CONSERVATION PLAN

Coffee Lake Creek Wetlands



Coffee Lake Creek Wetlands | April 2019

North Coffee Lake Creek Wetlands | TBD

Tonquin Scablands | TBD

April 2019

Metro

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Chapter 2 | North Coffee Lake Creek Wetlands

Introduction and planning area ..... TBD

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Wildlife and vegetation ..... TBD

Conservation ..... TBD

Chapter 3 | Tonquin Scablands

Introduction and planning area ..... TBD

Existing conditions ..... TBD

Access and recreation ..... TBD

Wildlife and vegetation ..... TBD

Conservation ..... TBD

CHAPTER 1 | COFFEE LAKE CREEK WETLANDS

INTRODUCTION AND PLANNING AREA

The Coffee Lake Creek Wetlands is an approximately 225-acre historic farm located in and adjacent to the Coffee Lake Creek/Rock Creek Subbasin floodplains near Wilsonville, OR. The site is roughly bordered by Grahams Ferry Road to the north and Barber Road to the south, the Villebois Development to the west and Kinsman Road to the east.

The western portion of the site is zoned EFU and is designated as a rural reserve. The eastern and southern portions of the site are zoned a mix of industrial and residential.

Portions of the site were donated to Metro by the Wetland Conservancy (TWC), and carry restrictions associated with a conservation easement held by TWC. Other portions of the site were leased to the City of Wilsonville for use as mitigation for impacts associated with the construction of Boeckman Rd. The site flanks the alignment for the proposed regional Ice Age Tonquin Trail. Portions of the Ice Age Tonquin Trail already have been constructed adjacent to the site, such as the trail segment on Boeckman Road.

The Coffee Lake Creek Wetlands Conservation Plan (Conservation Plan) is a tool for protecting and enhancing the unique characteristics of the site while allowing access by the public. This Conservation Plan has been developed by Metro staff and includes an overview of the history of the site, existing conditions, conservation targets and recreation and access objectives for the site.

KEY METRO STAFF AND PARTNERS

Staff

Curt Zonick, Natural Resources Scientist
Adam Stellmacher, Lead Natural Resources Specialist
Ryan Jones, Natural Resource Technician
Marsha Holt Kingsley, Native Plant Materials Scientist
Katy Weil, Wildlife Monitoring Coordinator
Robert Spurlock, Regional Park Planner

Private landowners and partners

The Wetland Conservancy, conservation easement holder over part of the site
The City of Wilsonville, municipal partner
Villebois Development, adjacent residential development, Lowrie Primary School location
Jon Book, neighbor, local science teacher
Sheri Young, neighbor, donation partner for part of the site via the Wetland Conservancy

EXISTING PLANNING/HISTORICALLY-RELEVANT DOCUMENTS

- Conservation Easement held by The Wetlands Conservancy over a 28-acre portion of the site. Most of this tract lies south of Boeckman Road and west of the Seely Ditch, but the property spans both features. M:\PN\Regional Properties\Tonquin Geologic Area TA\Planning\Coffee Lake Creek SCP\Key documents\TWC Conservation Easement.pdf

- An ecological assessment of the site was conducted by Fishman Environmental Services in 1995. M:\PN\Regional Properties\Tonquin Geologic Area TA\Planning\Coffee Lake Creek SCP\Key documents\Fishman 1995 Tonquin Biological Report

- Villebois Park Design. A planned public access project flanking the wetlands below Boeckman Rd. M:\PN\Regional Properties\Tonquin Geologic Area TA\Coffee Lake Creek Wetlands\March 2017\395018.FDP Parks (RP 7 & 8).2015-08-05.doc

- Tonquin Geologic Area 2007 Ecological Assessment supporting the 2006 Natural Areas Bond Refinement Process: M:\PN\Regional Properties\Tonquin Geologic Area TA\Planning\Coffee Lake Creek SCP\Key documents\2007 Tonquin Geologic Area Biological Assessment.pdf

- Tonquin Geologic Area Target Area Assessment Plan: M:\PN\Teams\Science\Conservation Planning\Target Area Scale Planning\Tonquin\Current Version\Tonquin Geologic Area Draft November 2010 with accepted changes.docx

- Ice Age Tonquin Trail Master Plan: M:\PN\Regional Properties\Tonquin Geologic Area TA\Planning\Coffee Lake Creek SCP\Key documents\Final_IATT_MP_HighResolution.pdf or M:\PN\Regional Properties\Tonquin Geologic Area TA\Planning\Coffee Lake Creek SCP\Key documents\Tonquin Trail Appendices Compiled Final 432013.pdf or https://www.oregonmetro.gov/ice-age-tonquin-trail-master-plan

EXISITING CONDITIONS

SITE DESCRIPTION

The Coffee Lake Creek Wetlands were largely shaped by the Missoula Flood events, exhibiting uplands formed from accumulations of rock and basalt, and scoured lowlands and a small kolk pond that were eroded and shaped by the floodwaters as they funneled through the Rock Creek and Coffee Lake Creek floodplain.

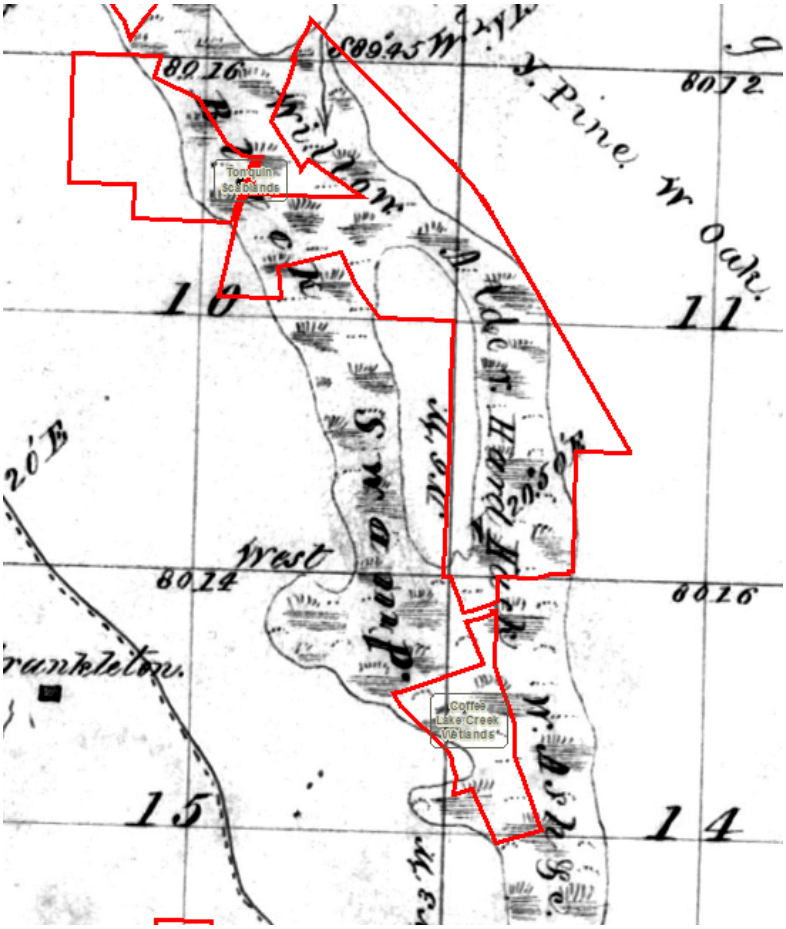
Over time, the wetlands have accumulated complex wetland soils, including cells of high organic peat soil. See Table 1.

Table 1: **Soils present at the Coffee Lake Creek Wetlands**

MAP SOIL SYMBOL	MAP UNIT NAME	DESCRIPTION
1	Aloha silt loam	Deep, somewhat poorly drained soil. In areas not cultivated, the vegetation often contains Douglas fir, Oregon white oak, snowberry, tall Oregon grape, roses, forbs and grasses.
12A	Canderly sandy loam	Deep, somewhat excessively drained soil. In areas not cultivated, the vegetation often contains Douglas fir, Oregon white oak, western hazel, blackberries, grasses and weeds.
25	Cove silty clay loam	Deep, poorly drained soil on floodplains. Where not cultivated, vegetation typically includes Oregon ash, willows sedges, blackberries and grasses.
41	Huberly silt loam	Deep, poorly drained soil in swales of valley terraces. Where not cultivated, vegetation typically includes ash, willows, western hazel, sedges, western red cedar, and grasses.
42	Humaquepts	Deep, poorly drained soils on floodplains and old lake bottoms. Where not cultivated, vegetation typically includes sedges, willows, cottonwood and blackberries.
71	Quatama loam	Moderate well drained soil on terraces. Where not cultivated, vegetation typically includes Douglas fir, Oregon oak, ash, Oregon grape, western red cedar, grasses and forbs.
76 & 77	Salem silt loam	Deep well drained soils on stream terraces. Where not cultivated, vegetation typically includes Douglas fir, Oregon white oak, western red cedar, western hazel, Oregon grape, salal, brackenfern, and grasses.
92	Xerochrepts and Haploxerolls	Soil on terrace escarpments. Where not cultivated, vegetation typically includes Douglas fir, Oregon white oak, bigleaf maple, western red cedar, red alder, western hazel, Oregon grape, and salal.
93	Xerochrepts rock outcrop complex	Soil on high terraces and rolling uplands. Where not cultivated, vegetation typically includes Douglas fir, Oregon white oak, western hazel, Oregon grape, poison oak, and grasses.

HISTORIC VEGETATION

Based on maps and descriptions from the 1850s General Land Office surveys, the site and surrounding landscape was dominated by shrub wetlands in the lowland floodplain and forests and savannas on the upland terraces. During the GLO surveys conducted in the 1850s, the property was mapped as being part of the Black Swamp, a willow swamp with a mapped extent that matches fairly closely with the current floodplain boundaries and upland terraces (see figure below).



1852 GLO survey map. Metro ownership shown by a red line.

Table 2: **Historic habitats at Coffee Lake Creek Wetlands**

% cover	Habitat type	Historic habitat description by GLO surveyor notes
70%	Shrub wetland	Willow swamp, sometimes with ninebark, including riparian stands on gravel or sand bars. May contain small amounts of ash.
20%	Savanna	White oak, Douglas fir, ponderosa pine savanna.
10%	Closed forest; upland	Mesic mixed conifer forest with mostly deciduous understory. May include Douglas-fir, western hemlock, western redcedar, grand fir, bigleaf maple, yew, dogwood, white oak, red alder.

RECENT MANAGEMENT HISTORY

Initial stabilization work at the site was completed in the late 1990s, focusing on an ecological assessment of the site and broader target area, and minor weed abatement and structure decommissions. After stabilization, however, the Coffee Lake Creek Wetlands remained largely unmanaged due to funding and staff constraints, and incomplete public ownership in the landscape, particularly the wetlands. Though the forested portions of the site remained in relatively good shape, the wetlands were drained by agricultural ditches and dominated by non-native cover, primarily reed canarygrass.

Because the site lies in the floodplain, full wetland enhancement, involving hydrologic restoration, cannot be practically accomplished without owning most or all of the flanking bottomland. Collectively, the Coffee Lake Creek Wetlands protect less than half of the historic black swamp (see figure above), with privately-owned parcels comprising most of the western and northern portions of the swamp. A key southern parcel is also in private hands. With so many privately-owned flanking parcels in the floodplain, full hydrologic restoration/enhancement has not been possible.

Plans were developed to modify the seasonal storage via a series of earthen dykes and water control structures in 2000, linked with a project partnered by Ducks Unlimited and the USFWS/NAWCA program. However, that project was never constructed. Floodplain development permits were not issued for that project by the City of Wilsonville, in part because the Boeckman Road extension was due to be constructed, and the City planned to mitigate on the Coffee Lake Creek Wetlands site for wetland impacts from the road project. The NAWCA funding was redirected to other properties in the region, including Metro's Killin Wetlands.

Beginning in 2012, two new NAWCA grants developed in partnership with Ducks Unlimited created a new opportunity to enhance portions of the wetlands. Funds from the Willamette River Delta II NAWCA grant supported site prep, re-vegetation and maintenance release of approximately 100,000 trees and shrub in the southern floodplain and flanking uplands between Boeckman Road and the central kolk pond. In 2013, funds from the Living Floodplains NAWCA grant cost-shared similar re-vegetation of portions of the northern wetlands, picking up from the kolk pond and extending new planting up to Grahams Ferry Road. The 2012 and 2013 NAWCA projects were cost-shared by Metro General Fund and Parks Levy dollars.

EASEMENTS

The Wetland Conservancy's Conservation Easement

The majority of the land south of Boeckman Road was donated to Metro in 1999 by the Wetland Conservancy. The Conservancy holds a conservation easement over the tract. The easement's goal is "…to assure that the Protected Property will be retained forever predominantly in its natural condition as a relatively natural habitat of fish, wildlife, or plants, or similar ecosystem…"

City of Wilsonville

In 2006, Metro granted a perpetual easement to the City of Wilsonville to support the construction of the Boeckman-Tooze Road Project and the City's mitigation requirement associated with that project. Mitigation work focused on modifying a linear drainage ditch to a shallow, meandering slough with flanking native shrub wetland species.

Other easements on the property include a sewer easement running north from Boeckman Road and west of Kinsman Road and Bonneville Power Administration transmission lines extending along most of the unforested portions of the eastern flank of the site north of Boeckman Road.

ACCESS AND RECREATION

CONTEXT

There is currently no formal public access to Coffee Lake Creek Wetlands. Planned public access includes a new Villebois regional park and the Ice Age Tonquin Trail. Metro, the City of Wilsonville and other government agency partners completed the Ice Age Tonquin Master Plan in 2013, which guides much of the natural area's planned public access improvements.

Roughly 80 percent of Wilsonville-area residents identify as white. Median income is approximately $56,000 and 6.5 percent of the population are experiencing poverty. Families with children make up 23 percent of the population and seniors make up 10.5 percent.

Clackamas County residents who participated in the 2010 SCORP survey reported that their top recreational needs are walking and hiking trails of various types, general play, bike riding and relaxation.

ACCESS LEVEL

Per Metro's 2012 Portfolio Report, the designated access level for Coffee Lake Creek Wetlands was Natural Area Low. Metro staff conducted an internal process to determine the appropriate access level for each natural area, including Coffee Lake Creek Wetlands. This access level designation should be considered a starting point with the understanding that each site has unique circumstances.

The site's importance for habitat and natural resource protection would justify a "Habitat Preserve" access level designation, but the planned Ice Age Tonquin Trail, Villebois regional park, and ongoing nearby residential development will inevitably bring people to the site. Therefore, the site was given the Natural Area Low designation. Natural Area Low is defined as follows:

"Access by neighbors or local residents is permitted but not encouraged. These sites do not have formalized parking and interpretive or wayfinding signage. Trails on these sites are informal or demand in nature and are not built or maintained actively. Demand trails that travel through sensitive areas are actively decommissioned. Basic rule signage is posted at the property gate or primary entrance. These sites are visited monthly or bi-monthly by Metro staff to inspect for unauthorized use and to conduct maintenance."

The 2016 Parks and Nature System Plan removed the High and Low levels to the Natural Area access designation, and the Coffee Lake Creek Wetlands now carries the designation Natural Area.

VISITOR ACTIVITY

The following activities are anticipated at the site:

- Hiking, walking, jogging, bicycling
- Birding
- Wildlife, wildflower, and general nature observation
- Outdoor photography, painting, drawing
- Viewing water
- Outdoor education

FACILITIES

Villebois Regional Park

The City of Wilsonville and private developers are partnering on the planning and construction of a new park on land adjacent to Coffee Lake Creek Wetlands. The future park will be built on a strip of privately-owned land along the east side of Coffee Lake Drive, across the street from the Villebois community. The City of Wilsonville will own and operate the park. The park will include several trails, including a segment of the regional Ice Age Tonquin Trail. A boardwalk and viewing blind may be built on the Metro-owned site in the future, offering park visitors an opportunity to experience the natural area.

Ice Age Tonquin Trail

The regional Ice Age Tonquin Trail will one day extend more than 25 miles, connecting the Willamette River in Wilsonville north to Sherwood and Tualatin. See pages 36-39 of the Ice Age Tonquin Trail Master Plan for maps and descriptions of recommended improvements in the Coffee Lake Creek Wetlands vicinity. Part of the trail already exists within the immediate vicinity of Coffee Lake Creek Wetlands: a 2,000-foot-long segment of the trail is built along the southern edge of Boeckman Road.

South of Boeckman Road, the trail will be built in Wilsonville's Villebois Regional Park, just west of the Coffee Lake Creek Wetlands boundary. North of Boeckman Road the trail will pass through the natural area along its eastern edge, parallel to the railroad right-of-way. This trail segment will include a short spur trail or overlook, at a yet-to-be determined location, for purposes of interpreting the Missoula Floods and to provide views of the wetlands. The planned trail alignment passes through sensitive landscapes, including wetlands, upland forests and stream headwaters. During preliminary engineering, the trail alignment will need to be designed to avoid and/or minimize impacts to natural resources. It is likely that several bridges and/or boardwalks will be necessary. This trail segment most likely will not be built for several years, due to the fact that no construction funds have been identified at this time.

Metro and Wilsonville's respective roles and responsibilities regarding trail construction and operations and maintenance have not been defined. Either agency could foreseeably initiate trail construction, depending on funding opportunities, staffing capacity and internal project prioritization. Prior to or at the outset of the construction project, Metro and Wilsonville will need to determine which agency will be responsible for ongoing trail maintenance.

ACTIONS

The following actions are anticipated within the next five years or until a more detailed plan is developed.

- Work with the City of Wilsonville on planning and design of the regional trail to minimize impacts to natural resources while providing quality visitor access appropriately scaled.
- Work with partners on planning, design and development of Villebois Regional Park.
- Plan and install signage, as needed:
    - Regional trail kiosks with maps and interpretive information.
    - Intertwine trail wayfinding signs.
    - Interpretive messaging.
    - Standard Metro signage at other entry points.
    - Install no-entry signage where required.

NATURAL RESOURCES OF SPECIAL INTEREST

Even though Coffee Lake Creek Wetlands has largely been dominated by non-native cover, the site still supported a generally diverse wildlife population, including a modest breeding population of red-legged frogs, occasional western pond turtles, and regular use by ducks, waterbirds and songbirds. One of the primary motivations for the NAWCA-funded re-vegetation projects was to replace the relatively sterile pasture grass portions of the site with native shrub cover, to provide immediate habitat for species like willow flycatchers, that occupy the site, and to provide a habitat bridge, of sorts, for wildlife populations as the remaining flanking wetland parcels are acquired, and full wetland enhancement becomes possible.

Table 3: Rare species that are known to occur at the Coffee Lake Creek Wetlands

SPECIES	ORBIC LIST	FEDERAL STATUS	URBANIZING FLORA (2009) OR ODFW
Rana aurora aurora (Northern red legged frog)	N/A	Species of concern	State sensitive vulnerable
Actinemys marmorata (Western pond turtle)	N/A	Species of concern	State sensitive critical
Empidonax traillii brewsteri (Little willow flycatcher)	N/A	None	State sensitive vulnerable

CONSERVATION TARGETS

The conservation targets for the Coffee Lake Creek Wetlands are:

- Emergent wetlands
- Shrub wetlands
- Oak savanna
- Oak woodlands
- Upland forest
- Upland forest – shrub
- Riparian forest

CURRENT AND DESIRED FUTURE CONDITION OF CONSERVATION TARGETS

Table 4: Non-technical status and DFC of targets

TARGET	CURRENT CONDITION	DESIRED FUTURE CONDITION
Emergent wetlands	The emergent wetland units are found in the site's lowest elevations, flanking the central kolk pond and southwestern and northwestern regions. These units are a mix of native emergent vegetation (sedges and rushes, primarily) and reed canarygrass.	This habitat type, more than any other at the site, is most affected by hydrology. Successful re-establishment of native emergent vegetation, which is herbaceous in nature, will require nearly full acquisition of the historic Black Swamp/floodplain. The desired future condition would reflect a replacement of reed canarygrass-dominated bottomland with native sedges, rushes, spikerushes and other emergent natives.
Shrub wetlands	Until recently, this habitat type represented only a very small portion of the site, as much of the ground historically covered by native shrubs had been replaced by non-native pasture grass, especially reed canarygrass. Recent re-vegetation projects have restored native wet shrub cover to most of the historic shrubland footprint at the site.	Although the vegetation replacement initiated by the recent restoration projects will help establish a more native shrub wetland plant community, restoring true functionality must be accompanied by a return of broader seasonal flooding in the shrub wetland units. This goal will require broader acquisition success in the floodplain.
Savanna	Until 2012, the savanna was dominated by non-native pasture grass and broadleaf cover, especially meadow foxtail, Canada thistle and non-native blackberry. In 2012, the eastern savanna unit was replanted with Oregon oak, ponderosa pine and selected shrubs, to establish better native cover.	This habitat should present the structural characteristics of a savanna, with large, widely scattered trees, amongst an upland prairie. The goals for herbaceous cover in the prairie component of the savanna are modest. Replacing at least some of the non-native cover with sustainable cover of native grasses like Roemer's fescue, and native broadleaf forbs like meadow checkermallow and lupines, seems attainable, and is the current DCF for this unit.

Woodlands	Current woodland cover is isolated to a cluster of oaks and madrones on a small basalt hummock in the NW portion of the property (old Weedman unit). The unit was overgrown with mature conifers that were shade suppressing the woodland. An oak release project in 2015 addressed this threat. The understory, until recently, was dominated by non-native hawthorn and blackberry, which was cut and sprayed in 2012. Non-native ground cover of shiny geranium, poison hemlock, ivy and vinca, among other non-native herbs, persists.	Recently released from conifer suppression, this woodland is sound from a habitat structure standpoint. The understory cover should be pragmatically managed to favor native grasses and forbs and suppress non-native cover.
Upland closed forest	Most of the upland terraces at the site are covered by this habitat, represented by generally native mixed coniferous forest species. Although small areas of non-native ivy and other weeds occur, the cover is not dominant.	This target should be enhanced by eradicating non-native understory species, and possibly inter-planting with native trees, shrubs and herbs to boost understory diversity.
Upland forest - shrub	The upland shrub component of the site exists primarily as hedgerows on the highest terraces of the site, primarily within the utility right-of-ways. Until 2012, these units were dominated by blackberry, thistles and meadow foxtail/tall fescue. They were recently planted in upland native shrubs, such as snowberry, currant, and Oregon grape.	Once fully established, the units will exist in their DCF condition. The goal for these units is to provide native woody cover that is robust to challenges by non-native species, and of sufficiently low stature to prevent the need for the utility to intervene with mow/spray maintenance in the ROW corridors.
Bottomland forest	This habitat is essentially absent at the site, and is a planned enhancement feature of future restoration south of Boeckman Road.	

THREATS AND THEIR SOURCES FOR THE NEXT 10 YEARS

The site is primarily challenged by its fragmentation from the broader landscape, hydrologic modifications that drained the wetland for farming and pasture, encroachment and competition from non-native species, human disturbance, climate change, and nearby industrial development. Some of these threats are likely irreversible (e.g., climate change, nearby development), but others can be addressed through careful ongoing acquisition and restoration. The threats to the site are summarized in Table 7, categorized by conservation target.

CLIMATE CHANGE CONSIDERATIONS

Climate change is anticipated to affect summer temperatures and availability of water in summer. Other indirect effects of climate change may include range shifts of plants and animals, some native to North America and some not, and increased competition by these species. It is possible that climate change may touch every KEA, though effects on some KEAs may be more important than others.

Direct effects that may occur

- Increased summer temperatures.
- Increased severity of winter rain events.
- Decreased water availability in summer.

Indirect effects that may occur

- Increased risk of wildfire in hotter, drier summers.
- Range shifts by undesirable plants increasing competition.
- Disease introductions and/or increased vulnerability to disease.
- Loss of synchronicity of plant reproduction and pollinators.
- Loss of synchronicity of resident and migratory animals and food sources (e.g., insect hatches).
- Increased erosion in streams caused by the flashier winter rain events.
- In upland forests, plant growth and survival may be affected by increased summer temperatures and reduced water availability in summer.

Table 5: Threats

CONSERVATION TARGET	STRESS (DEGRADED KEA)	SEVERITY	SCOPE	OVERALL STRESS RANK	SOURCE (THREAT)	CONTRIBUTION	IRREVERSIBILITY	OVERALL SOURCE RANK	OVERALL THREAT RANK	COMMENTS
Shrub wetlands	Percent native shrub canopy cover	Moderate	High	Moderate	Competition from non-native species, such as blackberry and canarygrass	Very High	Low-Moderate	High	High	Canarygrass is very aggressive and creates a strong competitive challenge to newly establishing woody vegetation.
Woodlands	Non-native herbaceous cover	Moderate	High	Moderate	Competition from non-native species, such as blackberry and meadow foxtail	High	Moderate	Moderate	Moderate	Since the ground is higher, competition comes more from meadow foxtail and other, less aggressive plants than reed canarygrass.
Upland forest	% native tree and shrub canopy cover (combined)	Low	Moderate	Moderate	Presence of non-native species and isolation from larger forests	Moderate	Low	Moderate	Moderate	Several disconnected fragments being joined through re-vegetation events.
Upland forest – shrub	% native shrub canopy cover	Moderate	High	High	Competition from non-native shrubs and herbs, and early plant mortality	High	Low	Moderate	High	Since the ground is higher, competition comes more from meadow foxtail and other, less aggressive plants than reed canarygrass.
Savanna	Native grass and forb presence	Very High	Very High	Very High	Competition from non-native pasture grasses and broadleaf weeds	Very High	Moderate	High	Very High	Standard for native diversity and cover may need to be modest for this habitat, given its isolation and lack of natural native diversity.
Emergent wetland	Hydrology	High	High	High	Drainage ditches are artificially dewatering the site	High	Low	Moderate	High	The artificial drainage caused by the Seely Ditch and associated secondary ditches severely reduce the viability of native wetland habitats.
Emergent wetland	Native wetland plant cover	High	High	High	Invasive plants (canarygrass)	High	Moderate	High	High	Canarygrass is very aggressive and creates a strong competitive challenge to native emergent plants.

Table 6: Key ecological attributes for shrub wetlands

			---------- INDICATOR RATING ----------							
CATEGORY	KEA	INDICATOR	POOR	FAIR	GOOD	VERY GOOD	CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
Condition	Native shrub richness	Number of native shrub species per acre	<2 species	3-4 species	4-5 species	>6 species	Good	Very Good	Very Good	Currently using species list from McCain and Christy 2005, Technical Paper R6-NR-ECOL-TP-01-05.
Condition	Vegetative structure: shrub layer	Percent native shrub canopy cover	<30% cover or >80% cover	30-50% cover	50-70% cover	70-80% cover	Poor	Good	Very Good	Scrub-shrub wetlands have minimum 30% shrub cover (Cowardin 1979). PIF biological objective for willow flycatcher and yellow-breasted chat up to 80% shrub cover with scattered herbaceous openings (Partners in Flight 2003).

*Desired future condition

Table 7: Key ecological attributes for emergent wetlands

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native wetland plant cover in emergent area	Dominance of native herbaceous plants characteristic of the region's wetlands	<25% cover of vegetated areas	25-50% cover of vegetated areas	50-75% cover of vegetated areas	>75% cover of vegetated areas	Poor	Good	Good	Estimate based on site walk. Based on page 44 in the Division of State Lands HGM-based assessment guidebook (Adamus and Field 2001).
Condition	Hydrology	Hydroperiod	Both the filling/inundation and drawdown/drying of the site deviate from natural conditions (either increased or decreased magnitude and/or duration)	Site's filling or inundation patterns are characterized by natural conditions, but thereafter are subject to more rapid/extreme drawdown or drying compared to more natural wetlands. OR Patterns are of substantially lower magnitude or duration than under natural conditions, but thereafter site is subject to natural drawdown or drying.	The filling or inundation patterns in the site are of greater magnitude (and greater or lesser duration than would be expected under natural conditions, but thereafter, the site is subject to natural drawdown or drying	Hydroperiod of the site is characterized by natural patterns of filling or inundation and drying or drawdown.	Poor	Poor	Good	From WDNR's *Ecological Integrity Assessment: Temperate Pacific Freshwater Emergent Marsh* (Rocchio 2011).
Landscape context	Biological connectivity *(As determined by Wildlife Corridor project underway with PSU focusing on select surrogate species.)*	Degree of connectedness to nearby natural habitat patches appropriate for species of conservation interest	Wetland is isolated from other habitat areas	Wetland is connected by one or two corridors that are viable for species of interest.	Wetland is connected by three or more corridors that are viable for species of interest.	Wetland adj. to habitat that facilitates relatively free movement to other nearby patches, without intervening roads or paved/heavy use trails.	TBD (Presumed Poor-Fair)	Fair	Fair	Estimate based on site walks or aerials. Connectivity is particularly important for amphibians and other species requiring both wetlands and more upland habitats, but "viable" depends on species. (Chan-McLeod and Moy 2007; Hennings and Soll 2010).

*Desired future condition

Table 8: Key ecological attributes for oak woodland

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT RATING	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Native grass and forb abundance	Relative cover of native forb and grass species	<20% of total herbaceous cover	20-30% of total herbaceous cover	30-50% of total herbaceous cover	>50% of total herbaceous cover	Poor	Fair	Good	High quality oak woodlands have a relatively open understory with shrubs, grasses and wildflowers. We used relative rather than total % cover because herbaceous cover is lower in woodlands compared to savanna and prairie. ODFW's *Oregon Conservation Strategy* 2005, Strategy Habitat description for oak woodlands.
Condition	Vegetation structure	Canopy cover and architecture of woody vegetation	Woody vegetation (e.g., Douglas fir) is encroaching and total native canopy cover is acceptable (30-60%) over less than half of the target area.	Woody vegetation encroaching but total native canopy cover is 30-60% at least half of the target area.	Woody vegetation encroaching but total native canopy cover is 30-60% at least 90% of the target area.	Woody vegetation encroaching is generally absent, total native canopy cover is 30-60% in the target area, and canopy architecture is appropriate mix of large open grown trees/younger trees.	Good	Good	Good	Canopy cover based upon densiometer readings taken when all canopy trees are leafed out. If cover is estimated from aerial photography threshold cover categories should be increased by at least 5-10%. Tree species of concern in regard to invasion include in particular: *Pseudotsuga menziesii, Acer macrophyllum, Fraxinus latifolia, Prunus avium, Crataegus monogyna* (Alverson 2009).
Landscape context	Proximity (distance) to other target habitat patches	Number of habitat patches $\geq$ 12 ha (40 acres) within 2 km (1.25 miles)	No patches within 2 km (1.25 mi)	1 patch within 2 km (1.25 mi)	2 patches within 2 km (1.25 mi)	At least 3 patches within 2 km (1.25 mi)	TBD, presumed poor	TBD, presumed poor	Fair-Good	Covers the issue of meta-populations and value of other patches of target habitat within dispersal/pollinator distance. The 2 km (1.25 mi) distance may be greater than dispersal of many prairie species, and should be modified when specific dispersal distances for species of interest can be identified (Alverson 2009).

*Desired future condition

Table 9: Key ecological attributes for bottomland hardwood forest

CATEGORY	KEA	INDICATOR	---------- INDICATOR RATING ----------				CURRENT STATUS	DFC* FOR THIS SCP	LONG TERM DFC	COMMENTS
			POOR	FAIR	GOOD	VERY GOOD				
Condition	Vegetative structure: tree layer	% native tree canopy cover	<20% cover	20-30% cover	30-40% cover	40% or more	Poor	Very Good	Very Good	Willow flycatcher abundance is positively correlated with dense mature deciduous riparian forest. (Partners in Flight 2000)
Condition	Vegetative structure: other layers	% native cover	<30% cover	30-60% cover	60-90% cover	90% or more	Poor	Very Good	Very Good	Native shrubs and herbaceous plants provide a number of services, including food and ovipositing sites, as well as structural complexity to the habitat that is associated with increased wildlife diversity. (Hagar 2003; Hennings and Edge 2004; Ares et al. 2010; Pendergrass et al. 2012)
Condition	Mature bottomland tree species	Number and size (dbh) of species such as Oregon ash and Pacific willow	Mature Oregon ash lacking	<3 per acre with dbh >61 cm (24 inches)	3-5 per acre with dbh >61 cm (24 inches)	>5 per acre with dbh >61 cm (24 inches)	Poor	Very Good	Very Good	Recruitment of native trees necessary for long-term health of riparian forest. Saplings are < 2m (6.6 ft) tall. Partners in Flight (2000) biological objective for Willamette Valley large-canopy trees in riparian deciduous woodland.
Condition	Floodwater access to the floodplain	Degree of connection between stream/ floodplain during high water events	Extensively disconnected by levees, dikes, tide gates, elevated culverts, etc.	Moderately disconnected by constructed levees, dikes, tide gates, elevated culverts, etc.	Minimally disconnected by constructed levees, dikes, tide gates, elevated culverts, etc.	Multiple connections via backwater sloughs, channels	Poor	Very Good	Very Good	Measure based on field walk, aerials. Adapted from Washington DNR's *Ecological Integrity Assessment for North Pacific Lowland Riparian Forest and Shrubland*, "Hydrologic Connectivity (Riverine)." (Rocchio 2011)
Landscape context	Edge condition	% of edge bordered by natural habitats and/or managed for conservation	Patch surrounded by non-natural habitats (0-25% natural habitat)	25%+ of patch bordered by natural habitats	50-75% of patch bordered by natural habitats or managed for conservation	75-100% of patch bordered by natural habitats or managed for conservation	Poor	Very Good	Very Good	Assess via aerial photographs. The intactness of the edge can be important to biotic and abiotic aspects of the site. Derived from Washington DNR's *Ecological integrity assessment: North Pacific dry Douglas-fir forest and woodland* (Crawford 2011).

*Desired future condition

NATURAL RESOURCE STRATEGIES

This conservation plan outlines strategic actions to be carried out at North Coffee Lake Creek Wetlands Natural Area over the next 10-15 years. They are based on the short- and long-term goals for the conservation targets. The strategic actions described here are general courses of action to achieve these objectives and not highly prescriptive courses of action. Specific prescriptions and projects will be developed by Metro staff to address site-specific conditions encountered in the areas targeted for restoration action. Strategies have been ranked high, medium and low based on a combination of overall threat rank, ease and cost of implementation and regional importance of the conservation target.

High priority strategies

- Revegetate and enhance habitat in the remaining wildlife corridor gaps at the site, promoting the establishment of a future ecological connection with the Tualatin River NWR.
- Revegetate remaining sections of floodplain dominated by reed canarygrass and blackberry and plan ahead for adequate maintenance to ensure plants achieve "free to grow" size.
- Work with neighboring industry to improve the quality of stormwater and natural drainage entering the site from the east.

Medium priority strategies

- Work with neighbors to implement weed treatments on adjacent properties.
- Enhance forest complexity by snag and downed wood creation where appropriate.

Lower priority strategies

- Thin dense conifer plantation to accelerate individual tree growth, promote late successional characteristics (large branches, large canopy) and enhance understory diversity.

Table 10: List of proposed strategies

STRATEGY	SOURCES OF STRESS ADDRESSED	FOCAL CONSERVATION TARGETS/KEAS AFFECTED	WHY IMPORTANT/ TIMING ISSUES	MEASURE(S) OF SUCCESS	RANK
Reforest higher floodplain with native shrubs	Reed canarygrass and other herbaceous cover	Shrub wetlands/native vegetation structure	This strategy is needed immediately to address human disturbance associated with a planned public development along the west side of the floodplain	Establishment of a free-to-grow forest and shrub border along the west side of the floodplain to buffer human disturbance and provide a migration corridor	High
Enhance seasonal flooding in the lower floodplain areas of the site	Historic ditching that dewatered wetlands for agriculture	Emergent wetlands, shrub wetlands/hydrology	Hydrology is a key factor in restoring wetlands	Better connection with the Seely ditch and greater retention of water entering the basin from flanking uplands	Medium

STRATEGY	SOURCES OF STRESS ADDRESSED	FOCAL CONSERVATION TARGETS/KEAS AFFECTED	WHY IMPORTANT/ TIMING ISSUES	MEASURE(S) OF SUCCESS	RANK
Create a more diverse woody species palette to the site	N/A	N/A	Enhance ecological diversity to support a broader wildlife community	N/A	Medium
EDRR weed control	Purple loosestrife, yellow flag iris, false brome, meadow knapweed	Wetlands/native structure	Control is more effective while infestations are small	Eradication	High
Geyer willow expansions	Weed (RCG, primarily) competition	Shrub wetland/native shrub richness	Geyer willow is rare in the Valley and recovery will be improved with the re-establishment of new populations	Establishment of at least 500 plants and evidence of natural recruitment at the site	Medium
Define wildlife corridor alignment through the site to help direct public access corridor(s)	Gaps in habitat, needed wildlife assessments (currently being conducted by PSU)	Bottomland hardwood forest/landscape context	Fragmentation and development threaten the ecosystem and these impacts are hard to reverse	Habitat closure, as assessed on-the-ground and remotely by GIS	High
Improve landscape connectivity	Farming, resource extraction, and development	Multiple/landscape context	Protection prior to development/mining is important	Habitat closure, as assessed on-the-ground and remotely by GIS	Medium

High: Must do within 5 years to protect target viability.

Medium: Target will persist without it but will degrade over 5-10 years or require additional future management.

Low: Addresses a non-critical threat or one that is unlikely to threaten target viability within 10 years.

MONITORING PLAN

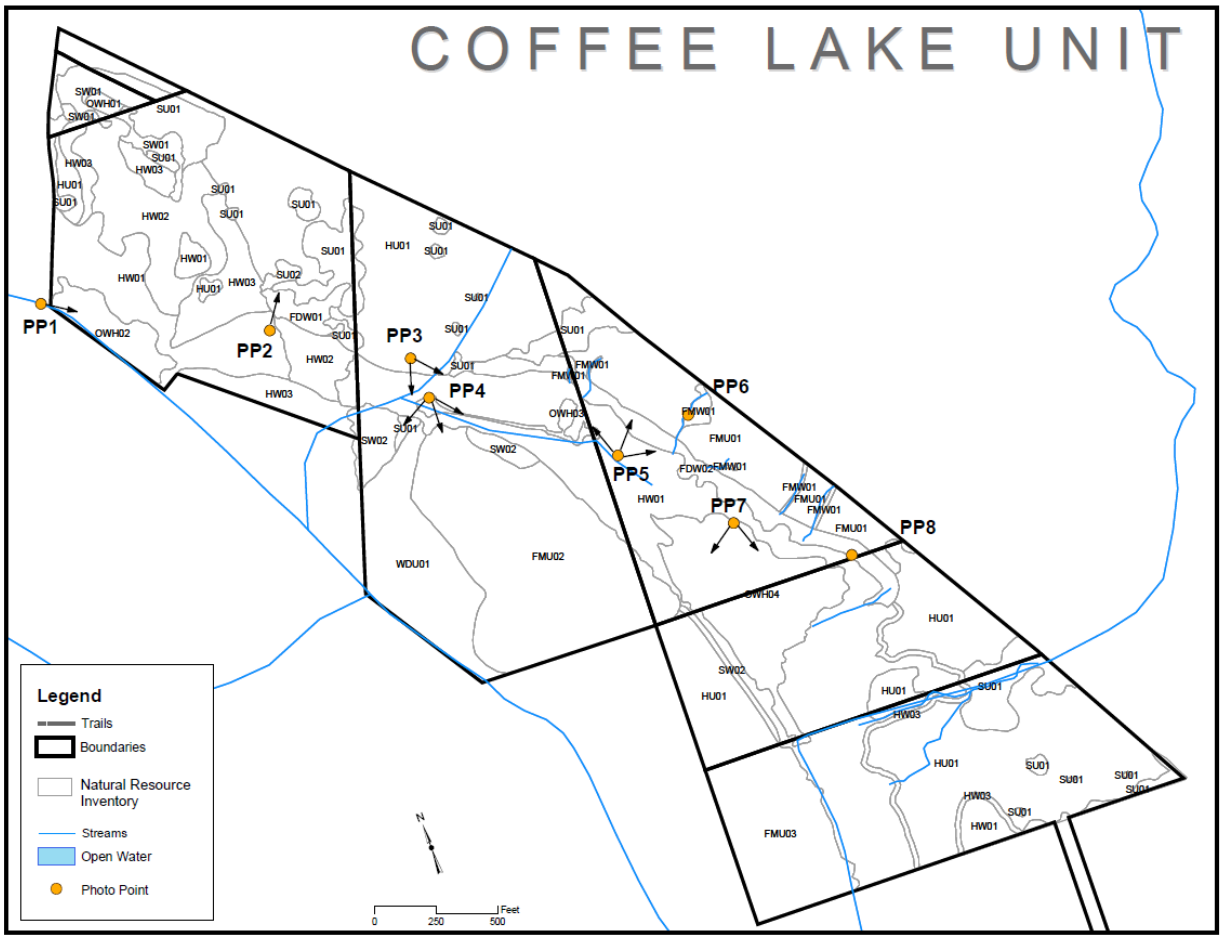
Monitoring will be done to evaluate habitat, population responses to management action, as well as progress toward achieving habitat and population objectives.

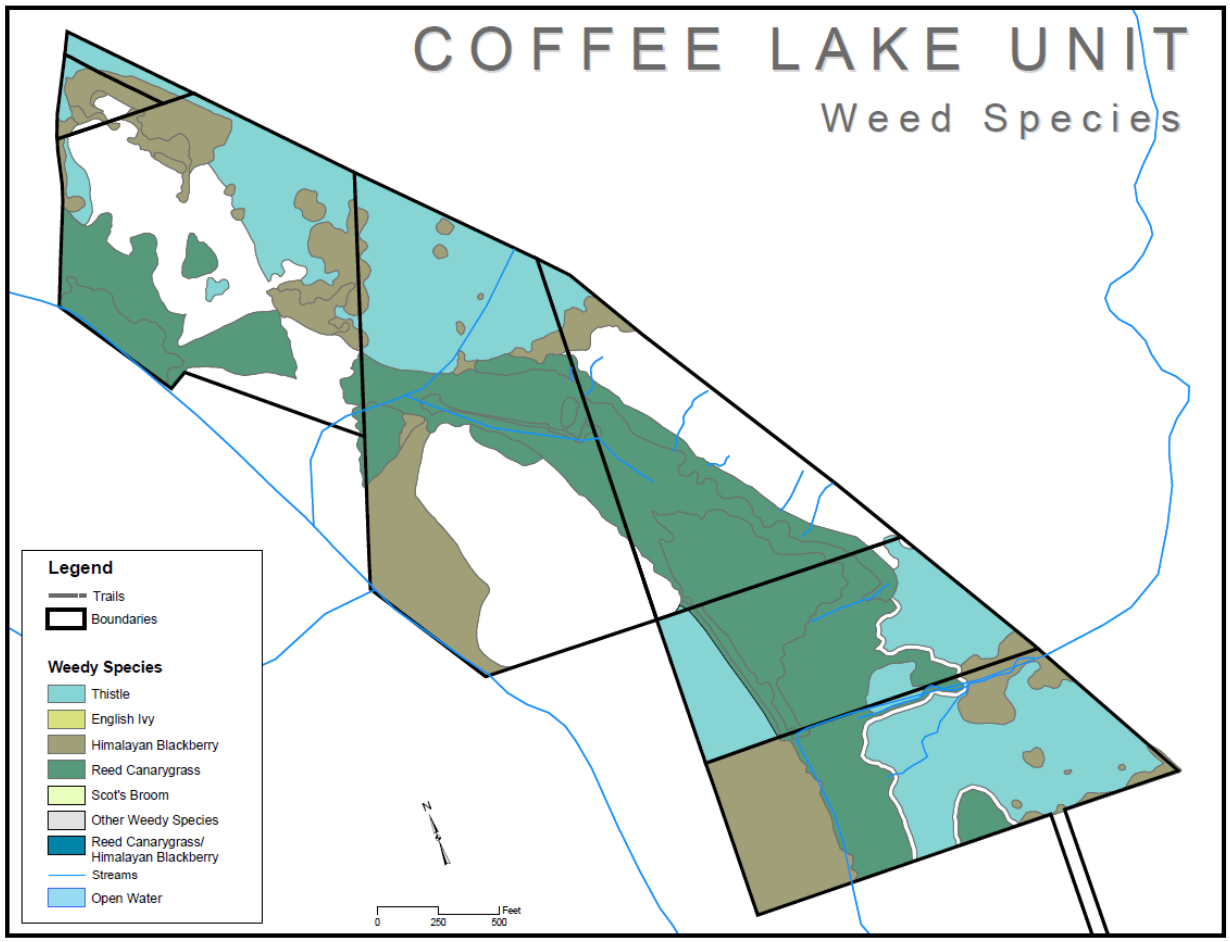
Monitoring addresses threats directly and indirectly, by tracking changes in certain ecological attributes. It implements techniques that are well-established and continues many monitoring efforts already in place. Recent and current monitoring focuses primarily on tracking pond-breeding amphibians and breeding birds. Both guilds are tracked using standard protocols implemented by trained volunteers. Recent additional tracking of selected wildlife surrogate species has been conducted by PSU to guide wildlife corridor assessment. This monitoring is likely to continue through 2020.

Specific actions and funding requirements

Table 11: Specific actions to implement strategies

STRATEGY	TARGET	PRIORITY (HOW SOON)	ESTIMATED COST
Complete establishment, including mow and spray maintenance until released to free to grow stage, of all new plantings introduced to the site in 2012-2014.	Shrub wetlands, upland forests, upland shrub, savanna	Active/ongoing	$30,000
Identify gaps in the wetlands that require further action (weed abatement/re-vegetation).	Shrub wetlands, upland forest, upland shrub	2-5 years	$20,000
Develop and implement a strategy for restoring hydrology, as acquisition allows.	Shrub wetlands and emergent wetlands	Long-term (5+, years depending on acquisition progress)	$250,000+
Develop restoration plan for the wetland tracts south of Boeckman Road.	Shrub wetlands, emergent wetlands, riparian forest, and upland forest	Active	$35,000
Implement restoration of wetlands south of Boeckman Road.	Shrub wetlands, emergent wetlands, riparian forest, and upland forest	3-5 years	TBD (est. $250,000)
Advance basic weed abatement goals in flanking edge portions of the site, including the TWC tract and the newly-acquired tract (old Weedman) in the NW corner of the site.	Upland forest – shrub	1-3 years	$30,000
Introduce additional species in the shrub wetland units to boost diversity.	Shrub wetlands	1-5 years	$20,000
Grid through forests and suppress priority non-native species, such as ivy, vinca, holly, arum etc.	Upland forest	1-5 years	$10,000
Interplant forest understory to promote better forest structure and diversity.	Upland forest	1-5 years	$15,000
Coordinate on Tonquin Trail development along eastern flank of the site as it lies above Boeckman Road, and the western flank of the site below Boeckman.	Several	1-5 years	TBD


COFFEE LAKE UNIT
PP1
PP2
PP3
PP4
PP5
PP6
PP7
PP8
Legend
Trails
Boundaries
Natural Resource Inventory
Streams
Open Water
Photo Point
N
0
250
500
Feet


COFFEE LAKE UNIT
Weed Species
Legend
Trails
Boundaries
Weedy Species
Thistle
English Ivy
Himalayan Blackberry
Reed Canarygrass
Scot's Broom
Other Weedy Species
Reed Canarygrass/ Himalayan Blackberry
Streams
Open Water
N
0
250
500
Feet

VEGETATION DESCRIBED FOR THE COFFEE LAKE UNIT IN 2002

(*Fishman Environmental Services*)

Table 12

PERMANENTLY FLOODED OPEN WATER WITH HERBACEOUS FRINGE COMMUNITY (OWH1):
This open water/herbaceous association is an excavated soft-bottomed pond with an emergent fringe of 5 to 40 feet. Water depth is approximately 2 feet with about 1 to 1.5 feet of sediment. The pond contains rooted pondweed and the emergent fringe is dominated by nodding beggars-tick, reed mannagrass, floating pennywort and simplestem bur-reed. Emergent vegetation is continually cropped by nutria and mallard.

nodding beggars-tick, *Bidens cernua* - reed mannagrass, *Glyceria grandis* [*maxima*] - floating penny-wort, *Hydrocotyle ranunculoides* - simplestem bur-reed, *Sparganium emersum*

BICE - GLGR - HYRA - SPEM

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***nodding beggars-tick**	**Bidens cernua**	**FACW+**	**N**
***reed mannagrass**	**Glyceria grandis [maxima]**	**OBL**	**N**
***floating penny-wort**	**Hydrocotyle ranunculoides**	**OBL**	**N**
***simplestem bur-reed**	**Sparganium emersum**	**OBL**	**N**
water-starwort	Callitriche species	OBL	probably N
soft rush	Juncus effusus	FACW	N
reed canarygrass	Phalaris arundinacea	FACW	**invasive**
pondweed	Potamogeton species	-	I
creeping buttercup	Ranunculus repens	FACW	I
American speedwell	Veronica americana	OBL	N

***Dominant (>25% cover)**

Table 13

PERMANENTLY FLOODED OPEN WATER WITH HERBACEOUS FRINGE COMMUNITY (OWH2):

This open water / herbaceous association is located along Graham's Ferry Road and Seely Ditch. Water depth averaged 1-2 feet except along the ditch where it reached a maximum depth of 5 feet and an average sediment depth of 2 feet. Vegetation is dominated by reed canarygrass, floating pennywort, and soft rush. Purple loosestrife and Douglas spirea are also scattered along the ditch and wetland fringe.

floating penny-wort, *Hydrocotyle ranunculoides* - soft rush, *Juncus effusus* - reed canarygrass, *Phalaris arundinacea*

HYRAN - JUEF - PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
purple loosestrife	Lythrum salicaria	FACW+	noxious
Douglas' spirea	Spiraea douglasii	FACW	N
HERBS			
***floating penny-wort**	**Hydrocotyle ranunculoides**	**OBL**	**N**
***soft rush**	**Juncus effusus**	**FACW**	**N**
***reed canarygrass**	**Phalaris arundinacea**	**FACW**	**invasive**
water-fern	Azolla mexicana	OBL	N
lesser duckweed	Lemna minor	OBL	N
American speedwell	Veronica americana	OBL	N

***Dominant (>25% cover)**

Table 14

PERMANENTLY FLOODED OPEN WATER WITH HERBACEOUS FRINGE COMMUNITY (OWH3):
This association includes 3 ponds that are connected by a ditch and receive water from hillslope springs. Water depth was 1-2 feet with 1 to 1.5 feet of sediment. Vegetation surrounding these ponds was dominated by reed canarygrass with occasional American speedwell and soft rush.

reed canarygrass*, Phalaris arundinacea*

PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***reed canarygrass**	**Phalaris arundinacea**	**FACW**	**invasive**
soft rush	Juncus effusus	FACW	N
American speedwell	Veronica americana	OBL	N

***Dominant (>25% cover)**

Table 15

PERMANENTLY FLOODED OPEN WATER WITH HERBACEOUS FRINGE COMMUNITY (OWH4):
Coffee Lake appears to be a spring fed open water / herbaceous community. Springs located in the riparian forest community to the east feed the lake. Water averaged 2 feet deep during the summer and remained fairly constant. Vegetation in the lake and surrounding fringe is dominated by creeping spikerush and reed canarygrass. Coffee Lake is a unique feature in this unit and attracts abundant wildlife species.

creeping spikerush, *Eleocharis palustris* - reed canarygrass*, Phalaris arundinacea*

ELPA - PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***creeping spikerush**	**Eleocharis palustris**	**OBL**	**N**
***reed canarygrass**	**Phalaris arundinacea**	**FACW**	**invasive**
reed mannagrass	Glyceria grandis [maxima]	OBL	N
floating penny-wort	Hydrocotyle ranunculoides	OBL	N
soft rush	Juncus effusus	FACW	N
knotweed or smartweed	Polygonum species	-	-

***Dominant (>25% cover)**

Table 16

SEASONALLY FLOODED HERBACEOUS COMMUNITY (HW1): Reed canarygrass forms a monoculture in the floodplain of Seeley Ditch. In depressions within the reed canarygrass association, where water ponds, there are pockets of soft rush, meadow foxtail, birdsfoot trefoil, American speedwell and water purslane. Wetland shrubs often fringe and are found in scattered pockets.

reed canarygrass, *Phalaris arundinacea*

PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
purple loosestrife	Lythrum salicaria	FACW+	noxious
Nootka rose, scattered	Rosa nutkana	FAC	N
clustered wild rose	Rosa pisocarpa	FAC	N
Piper's [[Hooker]] willow	Salix piperi [[hookeriana]]	FACW [[FACW-]]	N
Douglas' spirea	Spiraea douglasii	FACW	N
HERBS			
*reed canarygrass	Phalaris arundinacea	FACW	invasive
meadow foxtail	Alopecurus pratensis	FACW	I
slough sedge	Carex obnupta	OBL	N
water-starwort	Callitriche species	probably OBL	probably N
creeping spikerush	Eleocharis palustris	OBL	N
marsh horsetail	Equisetum palustre	FACW	N
floating penny-wort	Hydrocotyle ranunculoides	OBL	N
soft rush	Juncus effusus	FACW	N
birdsfoot-trefoil	Lotus corniculatus	FAC	I
water-purslane	Ludwigia palustris	OBL	N
swamp smartweed	Polygonum hydropiperoides	OBL	N
spotted ladysthumb	Polygonum persicaria	FACW	I
bittersweet nightshade	Solanum dulcamara	FAC+	invasive
broad-leaf cattail	Typha latifolia	OBL	N

***Dominant (>25% cover)**

Table 17

SEASONALLY FLOODED HERBACEOUS COMMUNITY (HW2): This herbaceous wetland association is the most diverse because it includes multiple channels and the wetter areas along the channels support a more diverse assemblage of species (e.g. bulrush, sedge, forget-me-not). Dominant vegetation includes bentgrass, soft rush, reed canarygrass and creeping buttercup.

meadow foxtail, *Alopecurus pratensis* - common velvetgrass, *Holcus lanatus* - soft rush, *Juncus effusus* - roughstalk bluegrass, *Poa trivialis*

ALPR - HOLA - JUEF- POATR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
*** meadow foxtail**	**Alopecurus pratensis**	**FACW**	**I**
***common velvetgrass**	**Holcus lanatus**	**FAC**	**I**
***soft rush**	**Juncus effusus**	**FACW**	**N**
***roughstalk bluegrass**	**Poa trivialis**	**FACW**	**I**
redtop	Agrostis alba	FAC	I
water foxtail	Alopecurus geniculatus	OBL	N
nodding beggars-tick	Bidens cernua	FACW+	N
thick-headed sedge	Carex pachystachya	FAC	N
sawbeak sedge	Carex stipata	OBL	N
thick-headed sedge	Carex pachystachya	FAC	N
bull thistle	Cirsium vulgare	FACU	noxious
creeping spikerush	Eleocharis palustris	OBL	N
Watson's [hairy] willow-herb	Epilobium watsonii [ciliatum]	FACW-	N
catchweed bedstraw	Galium aparine	FACU	N
reed mannagrass	Glyceria grandis [maxima]	OBL	N
common velvetgrass	Holcus lanatus	FAC	I
birdsfoot-trefoil	Lotus corniculatus	FAC	I
small-flowered forget-me-not	Myosotis laxa	OBL	N
reed canarygrass	Phalaris arundinacea	FACW	invasive
creeping buttercup	Ranunculus repens	FACW	I
curly dock	Rumex crispus	FAC+	I
softstem bulrush	Scirpus validus [[tabernaemontanii]]	OBL	N
yellow clover	Trifolium dubium	UPL	I

***Dominant (>25% cover)**

Table 18

SATURATED HERBACEOUS COMMUNITY (HW3): This association occurs as a fringing wetland to the reed canarygrass wetlands. Dominant vegetation on these slightly drier soils includes bentgrass, meadow foxtail, and velvet-grass.

bentgrass, *Agrostis* species - meadow foxtail, *Alopecurus pratensis* - common velvetgrass, *Holcus lanatus*

AGRSPP - ALPR - HOLA

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***bentgrass**	***Agrostis* species**	**-**	**-**
***meadow foxtail**	***Alopecurus pratensis***	**FACW**	**I**
***common velvetgrass**	***Holcus lanatus***	**FAC**	**I**
quack grass	*Agropyron* [[*Elytrigia*]] *repens*	FAC-	noxious
bull thistle	*Cirsium vulgare*	FACU	noxious
birdsfoot-trefoil	*Lotus corniculatus*	FAC	I

***Dominant (>25% cover)**

Table 19

UPLAND HERBACEOUS COMMUNITY (HU1): This grass association is typical of all of the upland meadows in the Coffee Lake area. This association is dominated by quack grass and colonial bentgrass with a variety of other annual and perennial pasture grasses and weedy forbs. By the end of the summer Canada and bull thistles overtop all other species.

quack grass, *Agropyron* [[*Elytrigia*]] *repens* - colonial bentgrass, *Agrostis tenuis* [[*capillaris*]] - Canada thistle, *Cirsium arvense* - bull thistle, *Cirsium vulgare*

AGRE - AGTE - CIAR - CIVU

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
HERBS			
***quack grass**	***Agropyron* [[*Elytrigia*]] *repens***	**FAC-**	**I**
***colonial bentgrass**	***Agrostis tenuis* [[*capillaris*]]**	**FAC**	**I**
***Canada thistle**	***Cirsium arvense***	**FACU+**	**noxious**
***bull thistle**	***Cirsium vulgare***	**FACU**	**noxious**
meadow foxtail	*Alopecurus pratensis*	FACW	I
sweet vernalgrass	*Anthoxanthum odoratum*	FACU	I
soft cheat grass	*Bromus mollis*	UPL	I
ripgut	*Bromus rigidus*	UPL	I
downy cheat grass	*Bromus tectorum*	UPL	I
oxeye daisy	*Chrysanthemum leucanthemum* [[*Leucanthemum vulgare*]]	UPL	I
field morning-glory	*Convolvulus arvensis*	UPL	**noxious**
orchard grass	*Dactylis glomerata*	FACU	I
Queen Anne's lace	*Daucus carota*	UPL	I
tall fescue	*Festuca arundinacea*	FAC-	I
rattail fescue	*Festuca myuros*	UPL	I
catchweed bedstraw	*Galium aparine*	FACU	N
spotted cats-ear	*Hypochaeris radicata*	FACU	I
willow lettuce	*Lactuca serriola*	FACU	I
birdsfoot-trefoil	*Lotus corniculatus*	FAC	I
streambank lupine	*Lupinus rivularis*	FACU	N
Chile tarweed	*Madia sativa*	UPL	N
yellow parentucellia	*Parentucellia viscosa*	FAC-	I
timothy	*Phleum pratense*	FAC-	I
curly dock	*Rumex crispus*	FAC+	I
western groundsel	*Senecio integerrimus*	FACU	N
tansy ragwort	*Senecio jacobaea*	FACU	**noxious**
chickweed	*Stellaria media*	FACU	I
yellow clover	*Trifolium dubium*	UPL	I
tiny vetch	*Vicia hirsuta*	UPL	I
common vetch	*Vicia sativa*	UPL	I
slender vetch	*Vicia tetrasperma*	UPL	I

***Dominant (>25% cover)**

Table 20

SATURATED SHRUB COMMUNITY (SW1): This wetland shrub community is located at the edge of the excavated pond near Graham's Ferry Road. It's a dense thicket and difficult to traverse due to the blackberry. Vegetation is dominated by Douglas hawthorn (25 feet tall) and Himalayan blackberry with common horsetail in the understory.

black hawthorn, *Crataegus douglasii* - Himalayan blackberry, *Rubus discolor* /

common horsetail, *Equisetum arvense*

CRDO - RUDI / EQAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
*black hawthorn	*Crataegus douglasii*	FAC	N
*Himalayan blackberry	*Rubus discolor*	FACU	invasive
HERBS			
*common horsetail	*Equisetum arvense*	FAC	N

*Dominant (>25% cover)

Table 21

SEASONALLY FLOODED SHRUB COMMUNITY (SW2): This seasonally flooded wetland shrub community is located on the western edge of the reed canarygrass flood plain. Vegetation forms a dense thicket that is dominated by Douglas hawthorn, clustered wild rose and reed canarygrass.

black hawthorn, *Crataegus douglasii* - clustered wild rose, *Rosa pisocarpa* /

reed canarygrass, *Phalaris arundinacea*

CRDO - ROPI / PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
***black hawthorn**	***Crataegus douglasii***	**FAC**	**N**
***clustered wild rose**	***Rosa pisocarpa***	**FAC**	**N**
tall Oregon grape	*Berberis* [[*Mahonia*]] *aquifolium*	UPL	N
Pacific ninebark	*Physocarpus capitatus*	FACW-	N
cascara	*Rhamnus purshiana*	FAC-	N
Himalayan blackberry	*Rubus discolor*	FACU	invasive
HERBS			
***reed canarygrass**	***Phalaris arundinacea***	***FACW***	**invasive**
meadow foxtail	*Alopecurus pratensis*	FACW	I

***Dominant (>25% cover)**

Table 22

UPLAND SHRUB COMMUNITY (SU1): Mounds of dense blackberry thickets (5 feet tall) are scattered throughout the upland herbaceous community and on the fringes of forests. Blackberry thickets that were visible on the aerial photo were mapped.

Himalayan blackberry, *Rubus discolor*

RUDI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
****Himalayan blackberry***	***Rubus discolor***	***FACU***	***invasive***
HERBS			
thistle	*Cirsium* species	-	**noxious**
hedge bindweed	*Convolvulus* [*Calystegia*] *sepium*	FAC	I
common horsetail	*Equisetum arvense*	FAC	N
common velvetgrass	*Holcus lanatus*	FAC	I

***Dominant (>25% cover)**

Table 23

UPLAND SHRUB COMMUNITY (SU2): This is an isolated shrub community on the edge of the black cottonwood community. Vegetation is dominated by clustered wild rose and also includes snowberry, tall Oregon grape, poison oak, cascara, mock orange and serviceberry.

clustered wild rose, *Rosa pisocarpa*

ROPI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
***clustered wild rose**	***Rosa pisocarpa***	***FAC***	***N***
Saskatoon serviceberry	*Amelanchier alnifolia*	FACU	N
tall Oregon grape	*Berberis* [[*Mahonia*]] *aquifolium*	UPL	N
mockorange	*Philadelphus lewisii*	UPL	N
cascara	*Rhamnus purshiana*	FAC-	N
poison oak	*Rhus diversiloba* [*Toxicodendron quercifolia*]	FACU	N
snowberry	*Symphoricarpos albus*	FACU	N

***Dominant (>25% cover)**

Table 24

SATURATED DECIDUOUS FOREST COMMUNITY (FDW1): This wetland forest association is an isolated ash – black cottonwood patch with about 75% canopy cover. The understory is dominated by Himalayan blackberry, bentgrass, and creeping buttercup.

Oregon ash, *Fraxinus latifolia* -black cottonwood, *Populus trichocarpa* [*balsamifera*] / Himalayan blackberry, *Rubus discolor* /

bentgrass, *Agrostis* species - creeping buttercup, *Ranunculus repens*

FRLA - POTR / RUDI / AGRSPP - RARE

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
****Oregon ash***	***Fraxinus latifolia***	***FACW***	***N***
****black cottonwood***	***Populus trichocarpa* [*balsamifera*]**	***FAC***	***N***
black hawthorn	*Crataegus douglasii*	FAC	N
Douglas fir	*Pseudotsuga menziesii*	FACU	N
SHRUBS			
***Himalayan blackberry**	***Rubus discolor***	***FACU***	***invasive***
tall Oregon grape	*Berberis* [[*Mahonia*]] *aquifolium*	UPL	N
ornamental hawthorn	*Crataegus monogyna*	FACU+	I
clustered wild rose	*Rosa pisocarpa*	FAC	N
snowberry	*Symphoricarpos albus*	FACU	N
HERBS			
***bentgrass**	***Agrostis* species**	**-**	**-**
****creeping buttercup***	***Ranunculus repens***	***FACW***	***I***
redtop	*Agrostis alba*	FAC	I
orchard grass	*Dactylis glomerata*	FACU	I
common horsetail	*Equisetum arvense*	FAC	N
catchweed bedstraw	*Galium aparine*	FACU	N
common velvetgrass	*Holcus lanatus*	FAC	I
soft rush	*Juncus effusus*	FACW	N
birdsfoot-trefoil	*Lotus corniculatus*	FAC	I
reed canarygrass	*Phalaris arundinacea*	FACW	**invasive**

***Dominant (>25% cover)**

Table 25

SEASONALLY FLOODED DECIDUOUS FOREST COMMUNITY AT BASE OF SLOPE IN NORTHEAST FOREST (FDW2): Water fed by seeps and tributary streams pools at the base of the hillslope. Vegetation is dominated by Oregon ash (up to 4' dbh) and reed canarygrass. On the south end of this community there is a small channel that empties into a rock walled pool greater than five feet deep with approximate dimensions of ten feet long and five feet wide; the channel originates from the east and drops down a moss covered rock face into the pool. A red-legged frog (a sensitive species) was observed beside the pool.

Oregon ash, *Fraxinus latifolia* / reed canarygrass, *Phalaris arundinacea*

FRLA / PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***Oregon ash**	***Fraxinus latifolia***	**FACW**	**N**
western red cedar	*Thuja plicata*	FAC	N
SHRUBS			
Pacific ninebark	*Physocarpus capitatus*	FACW-	N
red-osier dogwood	*Cornus stolonifera* [[*sericea*]]	FACW	N
black hawthorn	*Crataegus douglasii*	FAC	N
Pacific ninebark	*Physocarpus capitatus*	FACW-	N
Nootka rose	*Rosa nutkana*	FAC	N
clustered wild rose	*Rosa pisocarpa*	FAC	N
blackcap	*Rubus leucodermis*	UPL	N
Sitka willow	*Salix sitchensis*	FACW	N
HERBS			
***reed canarygrass**	***Phalaris arundinacea***	***FACW***	***invasive***
lady fern	*Athyrium filix-femina*	FAC	N
common horsetail	*Equisetum arvense*	FAC	N
spreading rush	*Juncus patens*	FACW	N
skunk cabbage	*Lysichitum* [[*Lysichiton*]] *americanum*	OBL	N
Siberian springbeauty	*Montia* [*Claytonia*] *sibirica*	FAC	N
marsh hedgenettle	*Stachys cooleyae* [*emersonii*]	FACW	N
piggy-back plant	*Tolmiea menziesii*	FAC	N
stinging nettle	*Urtica dioica*	FAC+	unknown

***Dominant (>25% cover)**

Table 26

PERMANENTLY FLOODED MIXED FOREST COMMUNITY ALONG STREAMS AND SEEPS (FMW1): The streams and seeps provide cool water to the deciduous wetland forests at the base of slope and to Coffee Lake and other open water / herbaceous wetlands below. The streams have moderately steep slopes. The canopy is dominated by a closed red alder and western red cedar canopy with lady fern and piggy back plant in the understory. Skunk cabbage is present in a few of the tributaries. Red-legged frogs were observed at the lower ends of the streams.

red alder, *Alnus rubra* - western red cedar, *Thuja plicata* /

lady fern, *Athyrium filix-femina* - piggy-back plant, *Tolmiea menziesii*

ALRU - THPL / ATFI - TOME

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***red alder**	***Alnus rubra***	**FAC**	**N**
***western red cedar**	***Thuja plicata***	**FAC**	**N**
SHRUBS			
Pacific ninebark	*Physocarpus capitatus*	FACW-	N
spreading gooseberry	*Ribes divaricatum*	FAC	N
blackcap	*Rubus leucodermis*	UPL	N
red huckleberry	*Vaccinium parvifolium*	UPL	N
HERBS			
***lady fern**	***Athyrium filix-femina***	**FAC**	**N**
***piggy-back plant**	***Tolmiea menziesii***	**FAC**	**N**
common horsetail	*Equisetum arvense*	FAC	N
skunk cabbage	*Lysichitum* [[*Lysichiton*]] *americanum*	OBL	N
Siberian springbeauty	*Montia* [*Claytonia*] *sibirica*	FAC	N
licorice fern	*Polypodium glycyrrhiza*	UPL	N
creeping buttercup	*Ranunculus repens*	FACW	I
dock	*Rumex* species	-	-
marsh hedgenettle	*Stachys cooleyae* [*emersonii*]	FACW	N
stinging nettle	*Urtica dioica*	FAC+	unknown

***Dominant (>25% cover)**

Table 27

DECIDUOUS UPLAND WOODLAND COMMUNITY (WDU1): This deciduous upland woodland community is dominated by Oregon ash and cascara and is located in the northwest corner of FMU2. The Oregon ash trees (20% cover) are large and the cascara forms a dense thicket below the open ash canopy ash. Lower shrubs are dominated by oceanspray and blackberry. The dense thicket has prevented the development of an herbaceous understory although there are large pockets of Pacific blackberry.

Oregon ash, *Fraxinus latifolia* / ocean spray, *Holodiscus discolor* - Himalayan blackberry, *Rubus discolor* - cascara, *Rhamnus purshiana* /

Pacific blackberry, *Rubus ursinus*

FRLA / HODI - RUDI - RHPU / RUUR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***Oregon ash**	***Fraxinus latifolia***	***FACW***	***N***
SHRUBS			
***ocean spray**	***Holodiscus discolor***	***UPL***	***N***
***cascara**	***Rhamnus purshiana***	***FAC-***	***N***
***Himalayan blackberry**	***Rubus discolor***	***FACU***	***invasive***
vine maple	*Acer circinatum*	FAC-	N
Saskatoon serviceberry	*Amelanchier alnifolia*	FACU	N
vine maple	*Acer circinatum*	FAC-	N
black hawthorn	*Crataegus douglasii*	FAC	N
Indian plum	*Oemleria cerasiformis*	FACU	N
Pacific ninebark	*Physocarpus capitatus*	FACW-	N
poison oak	*Rhus diversiloba* [*Toxicodendron quercifolia*]	FACU	N
clustered wild rose	*Rosa pisocarpa*	FAC	N
red elderberry	*Sambucus racemosa*	FACU	N
HERBS			
***Pacific blackberry**	***Rubus ursinus***	***FACU***	***N***
crane's-bill	*Geranium robertianum*	UPL	I

***Dominant (>25% cover)**

Table 28

MIXED UPLAND FOREST (NORTHEAST WOODS) COMMUNITY (FMU1): This mixed upland forest includes 7 spring-fed tributaries (FMW1) that discharge into Coffee Lake and other ponds on the flood plain below. The closed multi-layered canopy is dense enough that the understory is often bare; there are pockets of herbaceous vegetation throughout but no single species is dominant with >25% cover. Tree cover is dominated by large big leaf maple and western red cedar with diameters reaching 48 inches. Dominant herbaceous species in pockets include catchweed bedstraw, Pacific waterleaf, Siberian springbeauty, fringecup, nipplewort, Pacific blackberry and stinging nettle present.

big-leaf maple, *Acer macrophyllum* - western red cedar, *Thuja plicata* - Pacific blackberry, *Rubus ursinus* - stinging nettle, *Urtica dioica*

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***big-leaf maple**	***Acer macrophyllum***	***FACU***	***N***
***western red cedar**	***Thuja plicata***	***FAC***	***N***
Douglas fir	*Pseudotsuga menziesii*	FACU	N
SHRUBS			
vine maple	*Acer circinatum*	FAC-	N
Saskatoon serviceberry	*Amelanchier alnifolia*	FACU	N
dull Oregon grape	*Berberis nervosa*	UPL	N
beaked hazelnut	*Corylus cornuta*	FACU	N
ocean spray	*Holodiscus discolor*	UPL	N
English holly	*Ilex aquifolium*	UPL	I
Indian plum	*Oemleria cerasiformis*	FACU	N
baldhip rose	*Rosa gymnocarpa*	FACU	N
Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
blue elderberry	*Sambucus cerulea*	FACU	N
snowberry	*Symphoricarpos albus*	FACU	N
HERBS			
***Pacific blackberry (pockets)**	***Rubus ursinus***	***FACU***	***N***
***stinging nettle (pockets)**	***Urtica dioica***	***FAC+***	***unknown***
common burdock	*Arctium minus*	UPL	I
Dewey's sedge	*Carex deweyana*	FACU	N
Henderson's sedge	*Carex hendersonii*	FAC	N
fairy lantern	*Disporum* species	UPL	N
common scouring-rush	*Equisetum hyemale*	FACW	N
catchweed bedstraw	*Galium aparine*	FACU	N
Oregon avens	*Geum macrophyllum*	FACW+	N
Pacific waterleaf	*Hydrophyllum tenuipes*	UPL	N
nipplewort	*Lapsana communis*	UPL	I
Alaska oniongrass	*Melica subulata*	UPL	N
Siberian springbeauty	*Montia* [*Claytonia*] *sibirica*	FAC	N
western yellow oxalis	*Oxalis suksdorfii*	UPL	N
licorice fern	*Polypodium glycyrrhiza*	UPL	N
sword fern	*Polystichum munitum*	FACU	N
bracken fern	*Pteridium aquilinum*	FACU	N
fringecup	*Tellima grandiflora*	UPL	N
white inside-out flower	*Vancouveria hexandra*	UPL	N

Table 29

MIXED UPLAND FOREST (NORTHWEST WOODS) COMMUNITY (FMU2): This mixed upland forest community has a closed, multi-layered canopy dominated by big leaf maple and Douglas fir. Trees are medium to large with diameters up to 30 inches. Snags and large woody debris are common. Shrub cover is scattered and ranges from 0-75%. Dominant shrubs include vine maple, Oregon grape and beaked hazelnut. The understory is dominated by sword fern and inside-out flower with patches of spring beauty.

big-leaf maple, *Acer macrophyllum* - Douglas fir, *Pseudotsuga menziesii* / vine maple, *Acer circinatum* - dull Oregon grape, *Berberis nervosa* - beaked hazelnut, *Corylus cornuta* / sword fern, *Polystichum munitum* - white inside-out flower, *Vancouveria hexandra*

ACMA - PSME / ACCI - BENE - COCO / POMU - VAHE

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***big-leaf maple**	***Acer macrophyllum***	***FACU***	***N***
***Douglas fir**	***Pseudotsuga menziesii***	***FACU***	***N***
red alder	*Alnus rubra*	FAC	N
sweet cherry	*Prunus avium*	UPL	I
western red cedar	*Thuja plicata*	FAC	N
SHRUBS			
***vine maple**	***Acer circinatum***	***FAC-***	***N***
***dull Oregon grape**	***Berberis nervosa***	***UPL***	***N***
***beaked hazelnut**	***Corylus cornuta***	***FACU***	***N***
Saskatoon serviceberry	*Amelanchier alnifolia*	FACU	N
ocean spray	*Holodiscus discolor*	UPL	N
English holly	*Ilex aquifolium*	UPL	I
Indian plum	*Oemleria cerasiformis*	FACU	N
mockorange	*Philadelphus lewisii*	UPL	N
baldhip rose	*Rosa gymnocarpa*	FACU	N
Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
red elderberry	*Sambucus racemosa*	FACU	N
snowberry	*Symphoricarpos albus*	FACU	N
red huckleberry	*Vaccinium parvifolium*	UPL	N
HERBS			
***sword fern**	***Polystichum munitum***	***FACU***	***N***
***white inside-out flower**	***Vancouveria hexandra***	***UPL***	***N***
wild ginger	*Asarum caudatum*	FACU	N
California brome	*Bromus carinatus*	UPL	N
meadow brome	*Bromus commutatus*	UPL	I
Dewey's sedge	*Carex deweyana*	FACU	N
Henderson's sedge	*Carex hendersonii*	FAC	N
orchard grass	*Dactylis glomerata*	FACU	I
common horsetail	*Equisetum arvense*	FAC	N
wild strawberry	*Fragaria vesca*	UPL	N
catchweed bedstraw	*Galium aparine*	FACU	N
crane's-bill	*Geranium robertianum*	UPL	I
nipplewort	*Lapsana communis*	UPL	I
trumpet honeysuckle	*Lonicera ciliosa*	UPL	N
lemon balm	*Melissa officinalis*	UPL	I
Alaska oniongrass	*Melica subulata*	UPL	N

MIXED UPLAND FOREST (NORTHWEST WOODS) COMMUNITY (FMU2): This mixed upland forest community has a closed, multi-layered canopy dominated by big leaf maple and Douglas fir. Trees are medium to large with diameters up to 30 inches. Snags and large woody debris are common. Shrub cover is scattered and ranges from 0-75%. Dominant shrubs include vine maple, Oregon grape and beaked hazelnut. The understory is dominated by sword fern and inside-out flower with patches of spring beauty.

big-leaf maple, *Acer macrophyllum* - Douglas fir, *Pseudotsuga menziesii* / vine maple, *Acer circinatum* - dull Oregon grape, *Berberis nervosa* - beaked hazelnut, *Corylus cornuta* / sword fern, *Polystichum munitum* - white inside-out flower, *Vancouveria hexandra*

ACMA - PSME / ACCI - BENE - COCO / POMU - VAHE

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
Siberian springbeauty	*Montia* [*Claytonia*] *sibirica*	FAC	N
small-flowered nemophila	*Nemophila parviflora*	UPL	N
mountain sweet-cicely	*Osmorhiza chilensis*	UPL	N
bracken fern	*Pteridium aquilinum*	FACU	N
Pacific blackberry (patches)	*Rubus ursinus*	FACU	N
feather false Solomon's seal	*Smilacina racemosa*	FAC-	N
fringecup	*Tellima grandiflora*	UPL	N
giant trillium	*Trillium chloropetalum*	UPL	N

***Dominant (>25% cover)**

Table 30

COFFEE LAKE

MIXED UPLAND FOREST (SOUTH WOODS) COMMUNITY (FMU3): This multi-layered mixed upland canopy consists of approximately 60% cover which allows light to penetrate the forest floor and provides suitable habitat for abundant blackberry. Vegetation is dominated by big leaf maple, western red cedar, and Himalayan blackberry. Blackberry and English ivy need to be controlled.

big-leaf maple, *Acer macrophyllum* - western red cedar, *Thuja plicata* /

Himalayan blackberry, *Rubus discolor*

ACMA - THPL / RUDI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***big-leaf maple**	***Acer macrophyllum***	***FACU***	***N***
***western red cedar**	***Thuja plicata***	***FAC***	***N***
red alder	*Alnus rubra*	FAC	N
sweet cherry	*Prunus avium*	UPL	I
Douglas fir	*Pseudotsuga menziesii*	FACU	N
SHRUBS			
***Himalayan blackberry**	***Rubus discolor***	***FACU***	***invasive***
Saskatoon serviceberry	*Amelanchier alnifolia*	FACU	N
dull Oregon grape	*Berberis nervosa*	UPL	N
beaked hazelnut	*Corylus cornuta*	FACU	N
black hawthorn	*Crataegus douglasii*	FAC	N
ornamental hawthorn	*Crataegus monogyna*	FACU+	I
salal	*Gaultheria shallon*	FACU	N
ocean spray	*Holodiscus discolor*	UPL	N
English holly	*Ilex aquifolium*	UPL	I
Indian plum	*Oemleria cerasiformis*	FACU	N
poison oak	*Rhus diversiloba* [*Toxicodendron quercifolia*]	FACU	N
baldhip rose	*Rosa gymnocarpa*	FACU	N
rose	*Rosa* species	-	-
Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
blackcap	*Rubus leucodermis*	UPL	N
thimbleberry	*Rubus parviflorus*	FAC-	N
HERBS			
bentgrass	*Agrostis* species	-	-
California brome	*Bromus carinatus*	UPL	N
meadow brome	*Bromus commutatus*	UPL	I
dense sedge	*Carex densa*	OBL	N
Dewey's sedge	*Carex deweyana*	FACU	N
thick-headed sedge	*Carex pachystachya*	FAC	N?
Canada thistle	*Cirsium arvense*	FACU+	**noxious**
catchweed bedstraw	*Galium aparine*	FACU	N
small-flowered nemophila	*Nemophila parviflora*	UPL	N
wild strawberry	*Fragaria vesca*	UPL	N
crane's-bill	*Geranium robertianum*	UPL	I
English ivy	*Hedera helix*	UPL	**invasive**

COFFEE LAKE

MIXED UPLAND FOREST (SOUTH WOODS) COMMUNITY (FMU3): This multi-layered mixed upland canopy consists of approximately 60% cover which allows light to penetrate the forest floor and provides suitable habitat for abundant blackberry. Vegetation is dominated by big leaf maple, western red cedar, and Himalayan blackberry. Blackberry and English ivy need to be controlled.

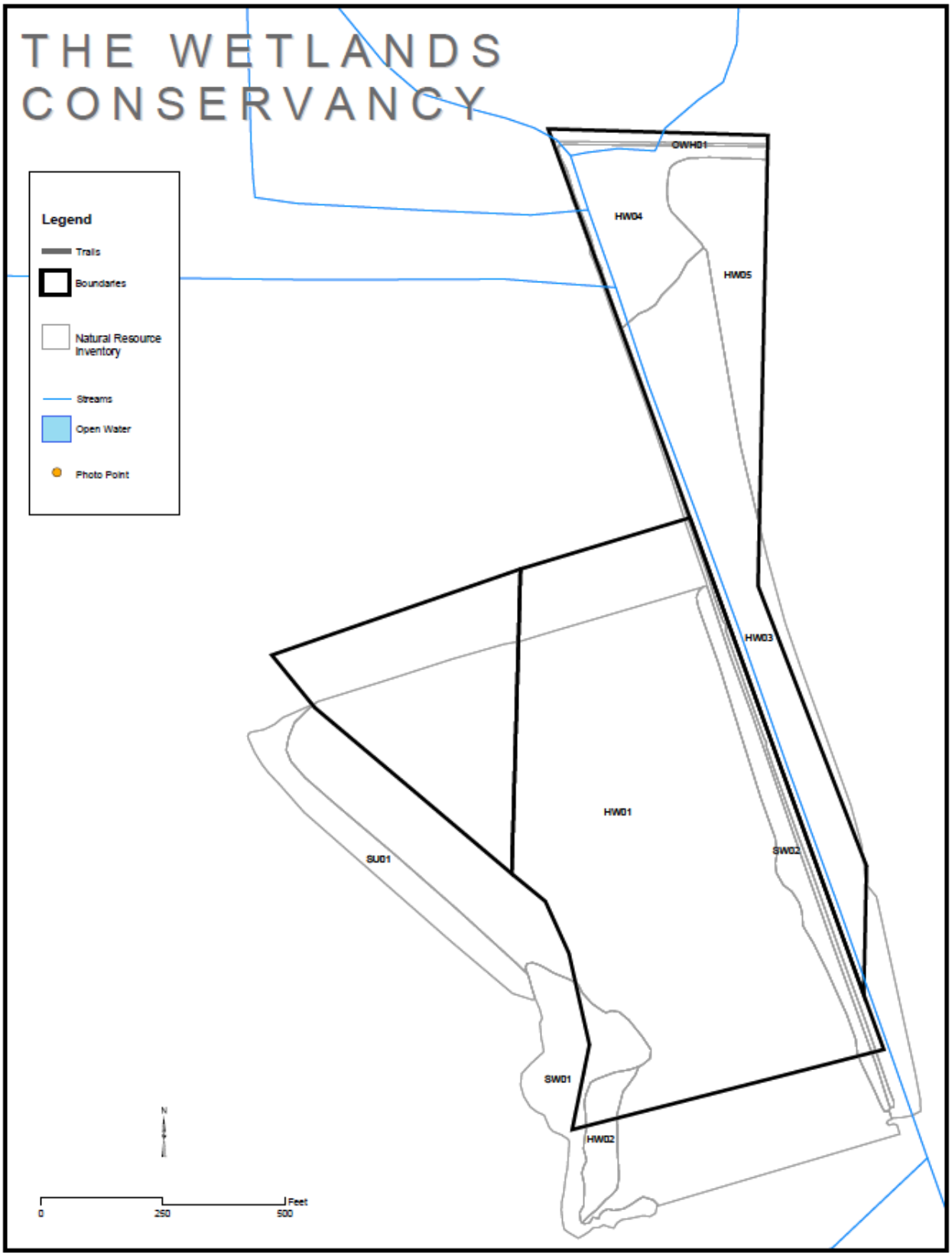
big-leaf maple, *Acer macrophyllum* - western red cedar, *Thuja plicata* /

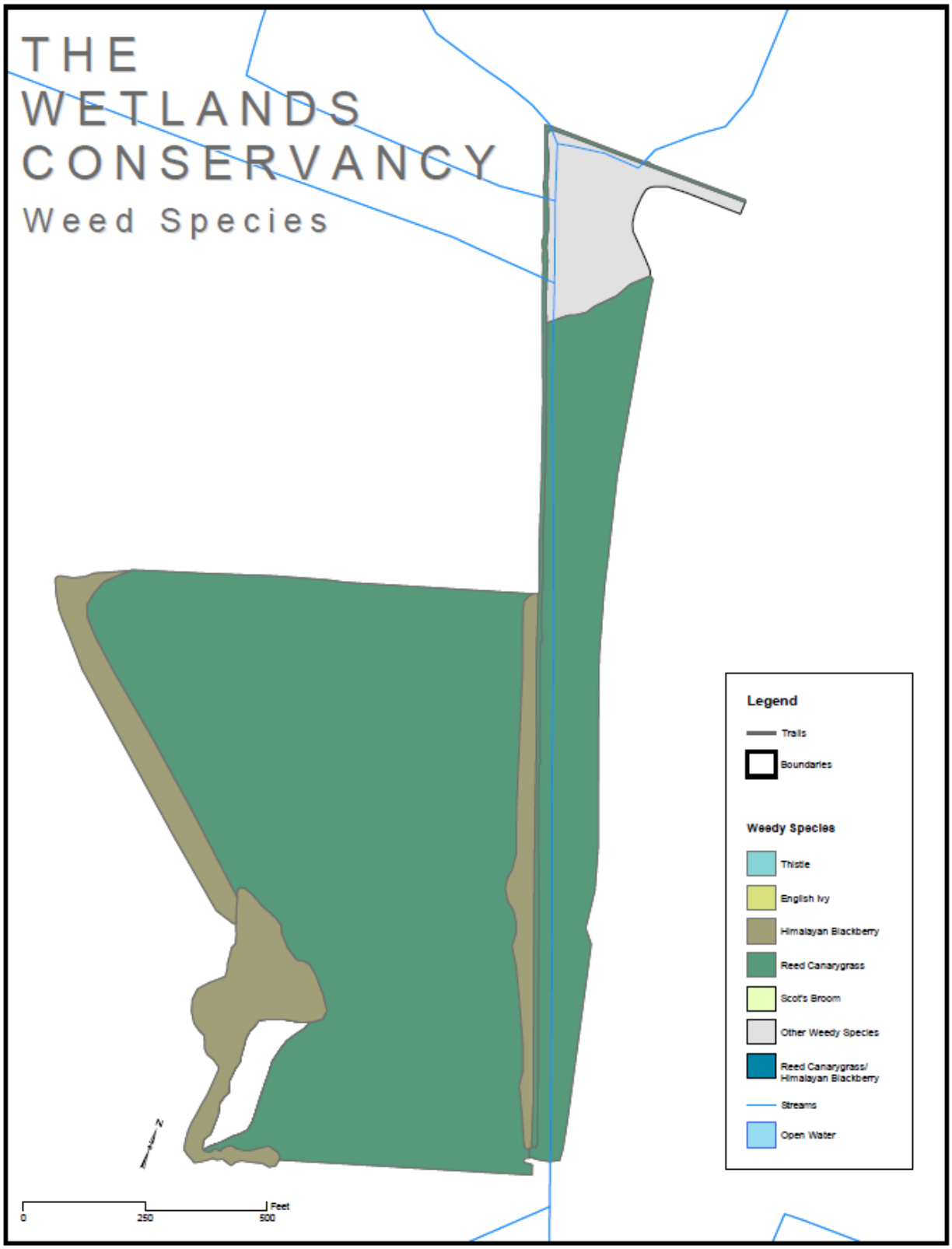
Himalayan blackberry, *Rubus discolor*

ACMA - THPL / RUDI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
nipplewort	*Lapsana communis*	UPL	I
Alaska oniongrass	*Melica subulata*	UPL	N
Siberian springbeauty	*Montia* [*Claytonia*] *sibirica*	FAC	N
sword fern	*Polystichum munitum*	FACU	N
bluegrass	*Poa* species	-	-
creeping buttercup	*Ranunculus repens*	FACW	I
marsh hedgenettle	*Stachys cooleyae* [*emersonii*]	FACW	N
fringecup	*Tellima grandiflora*	UPL	N
western starflower	*Trientalis latifolia*	FAC-	N
stinging nettle	*Urtica dioica*	FAC+	unknown

***Dominant (>25% cover)**


THE WETLANDS CONSERVANCY
Legend
Trails
Boundaries
Natural Resource Inventory
Streams
Open Water
Photo Point
OWH01
HW04
HW05
HW03
HW01
SW02
SU01
SW01
HW02
N
0
250
500
Feet


THE
WETLANDS
CONSERVANCY
Weed Species
Legend
Trails
Boundaries
Weedy Species
Thistle
English Ivy
Himalayan Blackberry
Reed Canarygrass
Scot's Broom
Other Weedy Species
Reed Canarygrass/
Himalayan Blackberry
Streams
Open Water
N
0
250
500
Feet

VEGETATION DESCRIBED FOR THE WETLANDS CONSERVANCY (TWC) UNIT IN 2002

Table 31

THE WETLANDS CONSERVANCY

SEELY DITCH (AKA COFFEE LAKE CREEK)

PERMANENTLY FLOODED OPEN WATER WITH HERBACEOUS FRINGE COMMUNITY (OWH1):
Seely Ditch or Coffee Lake Creek is 15 feet wide, including the wetland fringe and bank vegetation; it flows south through the center of the parcels, and has tributaries feeding it from the west, north, and east. The ditch appears fairly deep; it is culverted through a large corrugated metal pipe under the gravel farm road at the south end of the parcels. This culvert does not appear to be low enough. Shrubs from the community to the west (SW2) are sparse along the water's edge.

reed canarygrass, *Phalaris arundinacea* - stinging nettle, *Urtica dioica*

PHAR - URDI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
black hawthorn	*Crataegus douglasii*	FAC	N
ornamental hawthorn	*Crataegus monogyna*	FACU+	I
clustered wild rose	*Rosa pisocarpa*	FAC	N
Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
Douglas' spirea	*Spiraea douglasii*	FACW	N
HERBS			
***reed canarygrass**	***Phalaris arundinacea***	***FACW***	***invasive***
stinging nettle	***Urtica dioica***	***FAC+***	***unknown***
water-starwort	*Callitriche* species	probably OBL	N
lesser duckweed	*Lemna minor*	OBL	N
bittersweet nightshade	*Solanum dulcamara*	FAC+	**invasive**

***Dominant (>25% cover)**

Table 32

THE WETLANDS CONSERVANCY

SATURATED HERBACEOUS COMMUNITY (HW1): This large wetland meadow is dominated mostly by meadow foxtail with patches of reed canarygrass and a few scattered shrubs. A small exclosure is present near the center, made of chicken wire and wood posts; no drain tile was found. It appears that the field is mowed occasionally.

meadow foxtail, *Alopecurus pratensis* - reed canarygrass, *Phalaris arundinacea*

ALPR - PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
trace ornamental hawthorn	*Crataegus monogyna*	FACU+	I
trace Himalayan blackberry	*Rubus discolor*	FACU	**invasive**
trace Nootka rose	*Rosa nutkana*	FAC	N
trace clustered wild rose	*Rosa pisocarpa*	FAC	N
trace Douglas' spirea	*Spiraea douglasii*	FACW	N
HERBS			
***meadow foxtail**	***Alopecurus pratensis***	***FACW***	***I***
****reed canarygrass***	***Phalaris arundinacea***	***FACW***	***invasive***
trace quack grass	*Agropyron* [[*Elytrigia*]] *repens*	FAC-	**noxious**
redtop	*Agrostis alba*	FAC	I
spreading bentgrass	*Agrostis stolonifera*	FAC	N
water foxtail	*Alopecurus geniculatus*	OBL	N
thick-headed sedge	*Carex pachystachya*	FAC	N
one-sided sedge	*Carex unilateralis*	FACW	N
trace bull thistle	*Cirsium vulgare*	FACU	**noxious**
trace Watson's [hairy] willow-herb	*Epilobium watsonii* [*ciliatum*]	FACW-	N
common velvetgrass	*Holcus lanatus*	FAC	I
soft rush	*Juncus effusus*	FACW	N
trace willow lettuce	*Lactuca serriola*	FACU	I
hairy hawkbit	*Leontodon nudicaulis*	UPL	I
trace birdsfoot-trefoil	*Lotus corniculatus*	FAC	I
timothy	*Phleum pratense*	FAC-	I
fowl bluegrass	*Poa palustris*	FAC	N
trace Kentucky bluegrass	*Poa pratensis*	FAC	N
swamp smartweed	*Polygonum hydropiperoides*	OBL	N
Pacific silverweed	*Potentilla pacifica* [*anserina*]	OBL	N
spotted ladysthumb	*Polygonum persicaria*	FACW	I
trace willow smartweed	Polygonum lapathifolium	FACW	I
trace creeping buttercup	Ranunculus repens	FACW	I
trace wild radish	Raphanus sativus	NI	I
trace curly dock	Rumex crispus	FAC+	I
wood groundsel	Senecio sylvaticus	UPL	I
trace prickly sow-thistle	Sonchus asper	FAC-	I
trace slender vetch	Vicia tetrasperma	UPL	I

***Dominant (>25% cover)**

Table 33

THE WETLANDS CONSERVANCY

SATURATED HERBACEOUS COMMUNITY AT WEST EDGE (HW2): This is a small weedy patch of disturbed wetland along the west edge of the largest field (HW1) and south of SW1. The invasion of Canada thistle may be related to the presence of an old farm road.

Canada thistle, *Cirsium arvense*

CIAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***Canada thistle**	***Cirsium arvense***	***FACU+***	***noxious***
bentgrass	*Agrostis* species	-	-
meadow foxtail	*Alopecurus pratensis*	FACW	I

***Dominant (>25% cover)**

Table 34

THE WETLANDS CONSERVANCY

SATURATED HERBACEOUS COMMUNITY (HW3): This reed canarygrass field is bordered by an agricultural field to the east dominated by oats, with scattered reed canarygrass and weeds along the edges in the worst spray area and by the historically straightened / deepened Seely Ditch (Coffee Lake Creek) to the west. Good candidate site for enhancement.

reed canarygrass, *Phalaris arundinacea*

PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***reed canarygrass**	***Phalaris arundinacea***	***FACW***	***invasive***

***Dominant (>25% cover)**

Table 35

THE WETLANDS CONSERVANCY

SATURATED HERBACEOUS COMMUNITY - DISTURBED, WITH UPLAND HUMMOCKS (FILL SOILS) (HW4): This area is very disturbed, with upland hummocks or small hills of fill soils, probably due to nearby ditching. The community is dominated by weedy species, including quack grass, Canada thistle, bull thistle, catchweed bedstraw, reed canarygrass, and stinging nettle. Good candidate site for enhancement.

weedy species

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
quack grass	*Agropyron* [[*Elytrigia*]] *repens*	FAC-	**noxious**
Canada thistle	*Cirsium arvense*	FACU+	**noxious**
bull thistle	*Cirsium vulgare*	FACU	**noxious**
catchweed bedstraw	*Galium aparine*	FACU	N
reed canarygrass	*Phalaris arundinacea*	FACW	**invasive**
stinging nettle	*Urtica dioica*	FAC+	unknown

***Dominant (>25% cover)**

Table 36

THE WETLANDS CONSERVANCY

SATURATED HERBACEOUS COMMUNITY - FARMED WETLAND, PLOWED, PLANTED, AND SPRAYED (HW5): This band is actively farmed and planted in oats, with scattered reed canarygrass present. The vegetation along the edge of the oatfield was sprayed prior to the July site visit.

common oat, *Avena sativa*

AVSA

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
HERBS			
***common oat** (planted)*	***Avena sativa***	***UPL***	***I***
lamb's quarters	*Chenopodium album*	FAC	I
willow lettuce	*Lactuca serriola*	FACU	I
hairy hawkbit	*Leontodon nudicaulis*	UPL	I
reed canarygrass - scattered	*Phalaris arundinacea*	FACW	**invasive**
knotweed or smartweed	*Polygonum* species	-	-
prickly sow-thistle	*Sonchus asper*	FAC-	I

***Dominant (>25% cover)**

Table 37

THE WETLANDS CONSERVANCY

SATURATED SHRUB COMMUNITY (SW1): This grove of trees and shrubs is located in the southwest portion of the site and is fairly difficult to enter due to dense Himalayan blackberry. A red-tailed hawk nest in the tallest Douglas fir at the north end.

Pacific willow, *Salix lasiandra* [[*lucida* var. *lasiandra*]] / black hawthorn, *Crataegus douglasii* - Himalayan blackberry, *Rubus discolor*

SALA / CRDO - RUDI

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
TREES			
***Pacific willow**	***Salix lasiandra* [[*lucida* var. *lasiandra*]]**	***FACW+***	***N***
big-leaf maple	*Acer macrophyllum*	FACU	N
red alder	*Alnus rubra*	FAC	N
Oregon ash	*Fraxinus latifolia*	FACW	N
Douglas fir on edge	*Pseudotsuga menziesii*	FACU	N
western red cedar	*Thuja plicata*	FAC	N
SHRUBS			
***black hawthorn**	***Crataegus douglasii***	***FAC***	***N***
***Himalayan blackberry** *(on edge)*	***Rubus discolor***	***FACU***	***invasive***
red-osier dogwood	*Cornus stolonifera* [[*sericea*]]	FACW	N
beaked hazelnut	*Corylus cornuta*	FACU	N
cascara	*Rhamnus purshiana*	FAC-	N
Nootka rose	*Rosa nutkana*	FAC	N
clustered wild rose	*Rosa pisocarpa*	FAC	N
Piper's [[Hooker]] willow	*Salix piperi* [[*hookeriana*]]	FACW [[FACW-]]	N
blue elderberry	*Sambucus cerulea*	FACU	N
HERBS			
bittersweet nightshade	*Solanum dulcamara*	FAC+	**invasive**

***Dominant (>25% cover)**

Table 38

THE WETLANDS CONSERVANCY

SATURATED SHRUB COMMUNITY AT EAST EDGE, JUST WEST OF DITCH (SW2): This shrub community is present along the west edge of Seely Ditch (Coffee Lake Creek). Dominants include Himalayan blackberry and reed canarygrass.

Himalayan blackberry, *Rubus discolor* / reed canarygrass, *Phalaris arundinacea*

RUDI / PHAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
***Himalayan blackberry**	***Rubus discolor***	***FACU***	***invasive***
ornamental hawthorn	*Crataegus monogyna*	FACU+	I
rose	*Rosa* species	-	-
Douglas' spirea	*Spiraea douglasii*	FACW	N
HERBS			
***reed canarygrass**	***Phalaris arundinacea***	***FACW***	***invasive***
stinging nettle	*Urtica dioica*	FAC+	unknown

***Dominant (>25% cover)**

Table 39

THE WETLANDS CONSERVANCY

UPLAND SHRUB COMMUNITY AT WEST EDGE (SU1): This is a weedy patch forming the western boundary of the site at the toe of slope.

Himalayan blackberry, *Rubus discolor* / Canada thistle *Cirsium arvense*

RUDI / CIAR

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS	NATIVE / INTRODUCED
SHRUBS			
***Himalayan blackberry**	***Rubus discolor***	***FACU***	***invasive***
HERBS			
***Canada thistle**	***Cirsium arvense***	***FACU+***	***noxious***

***Dominant (>25% cover)**

WILDLIFE AND HABITAT ASSOCIATION AS RECORDED IN 2002 ECOLOGICAL ASSESSMENT

(*Fishman Environmental Services*)

Table 40

BIRDS		INTERIOR FOREST	UPLAND SHRUB/FOREST	OPEN WATER	WETLAND HERB	UPLAND HERB
pied billed grebe	*Podilymbus podiceps*			x		
green-backed heron	*Butorides striatus*		x			
great blue heron	*Ardea herodias*		x	x		
great egret	*Casmerodius albus*		x	x		
American bittern	*Botaurus lentiginosus*			x	x	
Canada goose	*Branta canadensis*			x	x	x
mallard	*Anas platyrhynchos*			x	x	x
green-winged teal	*Anas crecca*			x	x	
American widgeon	*Anas americana*			x	x	x
northern pintail	*Anas acuta*			x	x	
cinnamon teal	*Anas cyanoptera*			x	x	
ruddy duck	*Oxyura jamaicensis*			x		
Virginia rail	*Rallus limicola*			x	x	
sora rail	*Porzana carolina*			x	x	
killdeer	*Charadrias vociferus*				x	x
common snipe	*Gallinago gallinago*				x	
turkey vulture	*Cathartes aura*				x	x
northern harrier	*Circus cyaneus*				x	x
sharp-shinned hawk	*Accipiter striatus*	x	x			
red-tailed hawk	*Buteo jamaicensis*		x		x	x
American kestrel	*Falco sparverius*		x		x	x
mourning dove	*Zenaida macroura*		x			x
great-horned owl	*Bubo virginianus*	x	x		x	x
rufous hummingbird	*Selasphorus rufus*		x			x
belted kingfisher	*Ceryle alcyon*		x	x		
northern flicker	*Colaptes auratus*		x			x
red-breasted sapsucker	*Sphyrapicus ruber*		x			
downy woodpecker	*Picoides pubescens*		x			
hairy woodpecker	*Picoides villosus*		x			
pileated woodpecker	*Dryocopus pileatus*	x	x			
western wood-peewee	*Contopus sordidulus*		x			
willow flycatcher	*Empidonax traillii*		x			
flycatcher	*Empidonax species*		x			
tree swallow	*Tachycineta bicolor*		x	x	x	x
violet-green swallow	*Tachycineta thalassina*		x	x	x	x
cliff swallow	*Hirundo pyrrhonota*		x	x	x	x
barn swallow	*Hirundo rustica*		x	x	x	x
western scrub jay	*Aphelocoma coerulescens*		x			
Steller's jay	*Cyanocitta stelleri*	x	x			x
American crow	*Corvus brachyrhynchos*		x			x
black-capped chickadee	*Parus atricapillus*	x	x			

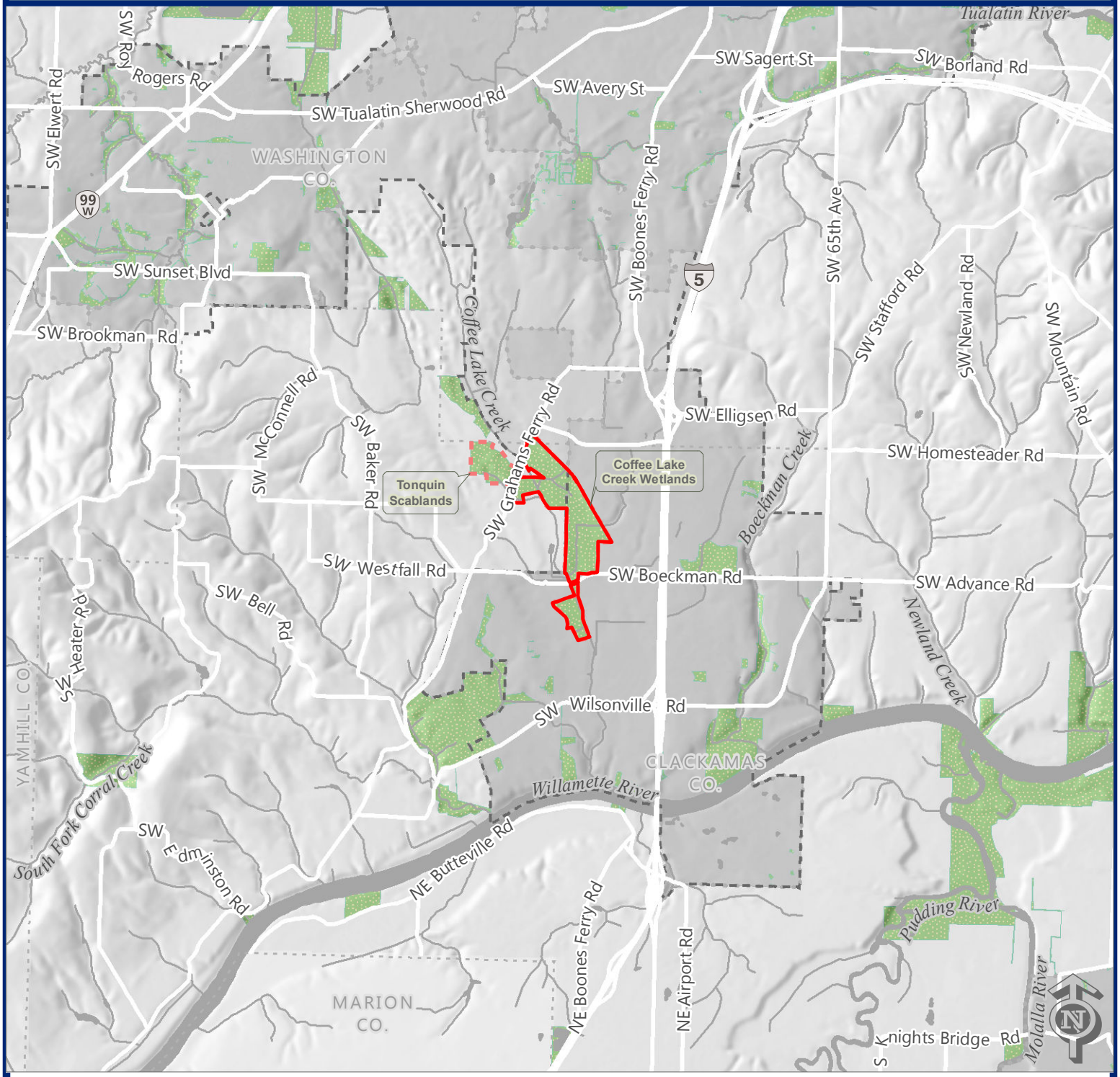
BIRDS		INTERIOR FOREST	UPLAND SHRUB/FOREST	OPEN WATER	WETLAND HERB	UPLAND HERB
chestnut-backed chickadee	*Parus rufescens*	x	x			
bushtit	*Psaltriparus minimus*	x	x			
brown creeper	*Certhia americana*	x				
red-breasted nuthatch	*Sitta canadensis*	x				
winter wren	*Troglodytes troglodytes*	x				
Bewick's wren	*Thryomanes bewickii*	x	x			
marsh wren	*Cistothorus palustris*			x	x	
golden-crowned kinglet	*Regulus satrapa*	x	x			
ruby-crowned kinglet	*Regulus calendula*	x	x			
Swainson's thrush	*Catharus ustulatus*	x	x			
varied thrush	*Ixoreus naevius*	x	x			
American robin	*Turdus migratorius*		x			x
cedar waxwing	*Bombycilla cedrorum*		x			x
European starling	*Sturnus vulgaris*		x			x
Hutton's vireo	*Vireo huttoni*	x				
orange-crowned warbler	*Vermivora celata*		x			
common yellowthroat	*Geothlypis trichas*		x		x	
black-headed grosbeak	*Pheucticus melanocephalus*	x	x			
spotted towhee	*Pipilo maculatus*	x	x			
savannah sparrow	*Passerculus sandwichensis*					x
song sparrow	*Melospiza melodia*		x		x	
dark-eyed junco	*Junco hyemalis*		x			x
white-crowned sparrow	*Zonotrichia leucophrys*					x
fox sparrow	*Passerella iliaca*		x			
red-winged blackbird	*Agelaius phoeniceus*			x	x	
Brewer's blackbird	*Euphagus cyanocephalus*				x	x
brown-headed cowbird	*Molothrus ater*		x			x
western tanager	*Piranga ludoviciana*	x	x			
American goldfinch	*Carduelis tristis*		x			x
house finch	*Carpodacus mexicanus*		x			x
house sparrow	Passer domesticus					x
FISH		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
cutthroat trout	*Oncorhynchus clarki*			x		
steelhead trout	*Oncorhynchus mykiss*			x		
redside shiner	*Richardsonius balteatus*			x		
mosquitofish	*Gambusia affinis*			x		
three-spined stickleback	*Gasterosteus aculeatus*			x		
sculpin	*Cottus species*			x		
HERPS		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
northwestern salamander	*Ambystoma gracile*			x		
long-toed salamander	*Ambystoma macrodactylum*		x	x	x	
nw pond turtle	*Clemmys marmorata*			x		

HERPS		INTERIOR FOREST	UPLAND SHRUB/FOREST	OPEN WATER	WETLAND HERB	UPLAND HERB
bullfrog	*Rana catesbeiana*			x		
red-legged frog	*Rana aurora*		x	x		
Pacific treefrog (chorus frog)	*Hyla regilla (Pseudacris regilla)*		x	x		
roughskin newt	*Taricha granulosa*			x		
common garter snake	*Thamnophis sirtalis*		x		x	x
MAMMALS		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
Townsend's mole	*Scapanus townsendii*					x
bat (variety)		x	x	x	x	x
Townsend's chipmunk	*Eutamias townsendii*	x	x			
Douglas squirrel	*Tamiasciurus douglasii*	x	x		x	
fox squirrel	*Sciurus*		x			x
beaver	*Castor canadensis*		x	x		
nutria	*Myocastor coypus*			x	x	
white-footed deer mouse	*Peromyscus maniculatus*	x	x		x	x
vole	*Microtus sp.*				x	
coyote	*Canis latrans*		x		x	x
raccoon	*Procyon lotor*		x			
black-tailed deer	*Odocoileus hemionus*	x	x		x	x
BUTTERFLIES		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
cabbage white	*Pieris rapae*				x	x
Lorquin's admiral	*Limenitis lorquini*				x	x
mourning cloke	*Nymphalis antiopa*				x	x
mylitta crescent	*Phyciodes mylitta*				x	x
ochre ringlet	*Coenonympha tullia*				x	x
painted lady	*Vanessa cardui*				x	x
red admiral	*Vanessa atalanta*				x	x
satyr anglewing	*Polygonia satyrus*				x	x
skipper	*Hesperia species*				x	x
spring azure	*Celastrina argiolus*				x	x
sulfur	*Colias species*				x	x
western tiger swallowtail	*Papilio rutulus*		x			x
wood nymph	*Cercyonis pegala*		x			x
OTHER INVERTEBRATES		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
banana slug	*Ariolimax columbianus*					
2-banded snail	*Monadenia fidelis*					
green snail	*Vespericola columbiana*					
MACROINVERTEBRATES		**INTERIOR FOREST**	**UPLAND SHRUB/FOREST**	**OPEN WATER**	**WETLAND HERB**	**UPLAND HERB**
small mayflies	*Beatidae species*			x		
stream mayflies	*Heptageniidae species*			x		
spring stonefly	*Amphinemura species*			x		
spring stonefly	*Zapada species*			x		
large saddle-back caddisfly	*Glossomatidae species*			x		
saddle-back caddisfly	*Glossomatidae species*			x		

MACROINVERTEBRATES		INTERIOR FOREST	UPLAND SHRUB/FOREST	OPEN WATER	WETLAND HERB	UPLAND HERB
rock worm cased caddisfly	*Limnephilidae species*			x		
finger-net caddisfly	*Dolophiloides species*			x		
finger-net caddisfly	*Wormaldia species*			x		
net-spinning caddisfly	*Hydropsychidae species*			x		
riffle beetle	*Elmidae species*			x		
crawling water beetle	*Haliplus species*			x		
damselfly	*Zygoptera species*			x	x	
dragonfly	*Anisoptera species*			x	x	
water boatman	*Graptocorixa species*			x		
water strider	*Gerridae species*			x		
shore bug	*Salididae species*			x		
no-see-ems	*Ceratopogonidae species*			x		
black fly	*Parasimulium species*			x		
mosquitofish	*Culicidae spcies*			x		
cranefly	*Pedicia species*			x		
moth fly	*Psychodidae species*			x		
midge	*Chironomidae species*			x		
aquatic wasp	*Hymenoptera species*			x		
crayfish	*Pacifasticus...*			x		
scud freshwater shrimp	*Gammarus species*			x		
freshwater sow bug	*Caedidotea species*			x		
stream snail	*Juga species*			x		
left-handed snail	*Physidae species*			x		
right-handed snail	*Planorbidae species*			x		
freshwater limpet	*Ferrissia species*			x		
fingernail clam	Sphaeriidae species			x		
flatworm	*Turbellaria species*			x		
aquatic earthworm	*Oligochaeta species*			x		

VICINITY MAP

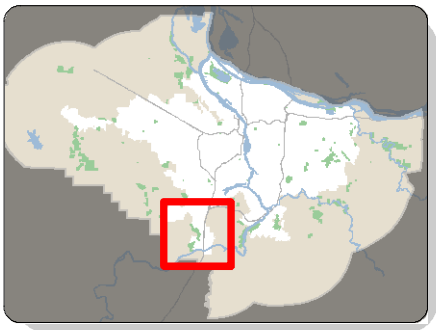
Metro



Coffee Lake Creek Wetlands site

Other Metro sites

0 1.5 3 Miles

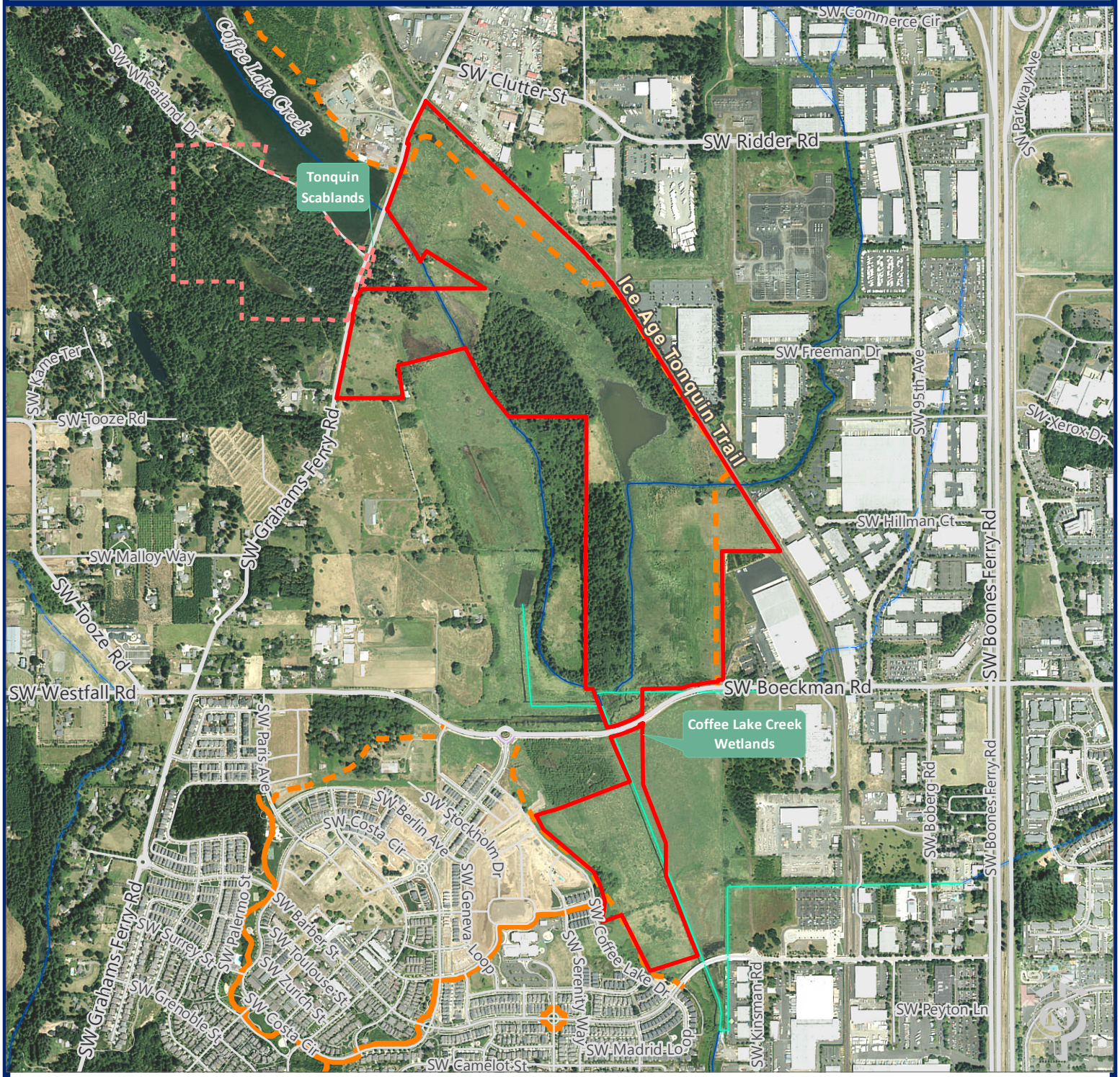


Coffee Lake Creek Wetlands Site Conservation Plan

map date: 11/9/2017

SITE MAP

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

Canal

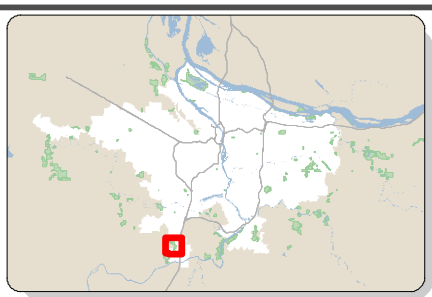
NHDplusStrmFlowline

Intermittent stream

Perennial stream

Existing Regional Multi-use Trail

Planned Multi-use Trail



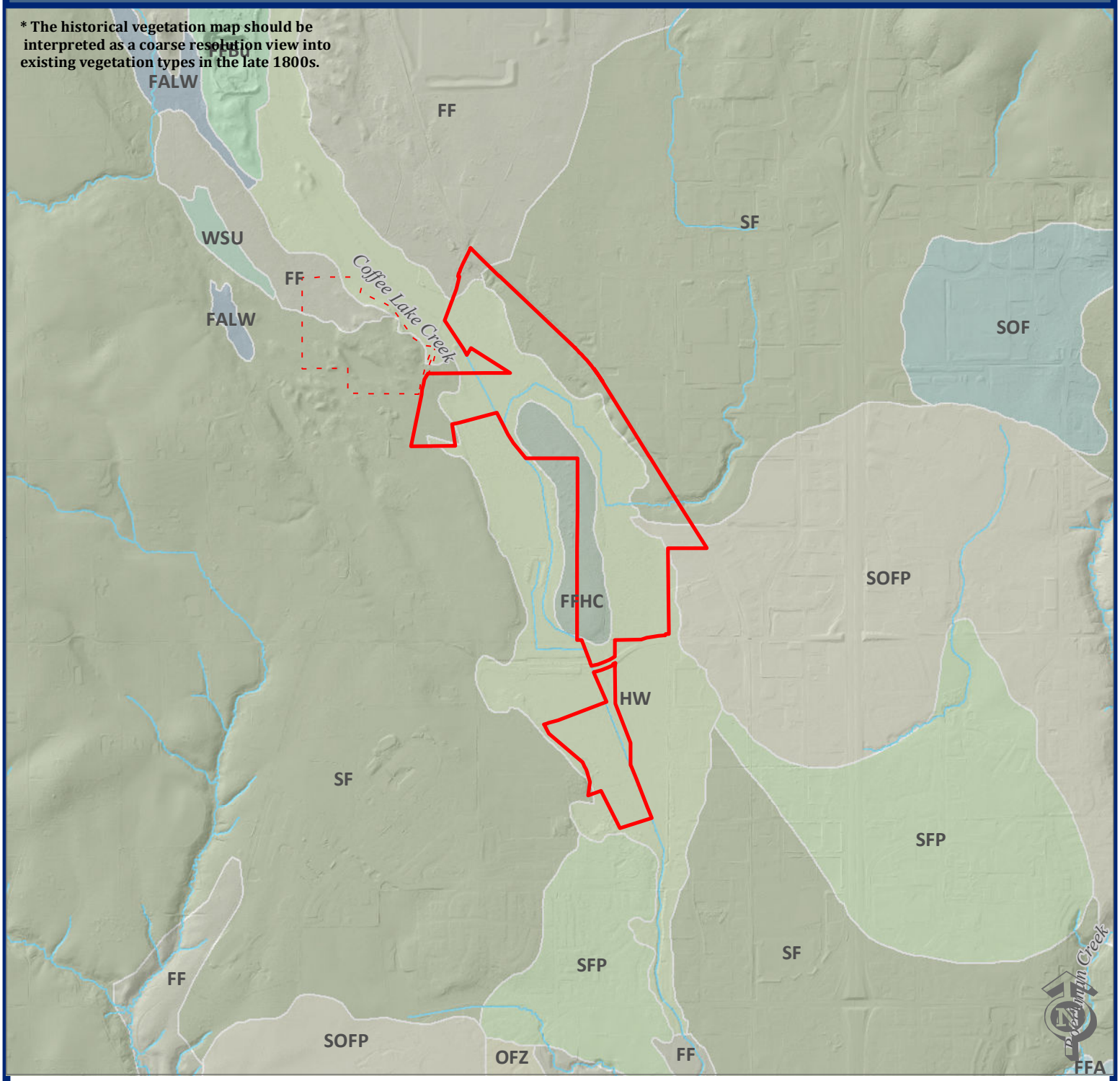
0 1,800 3,600 Feet

Coffee Lake Creek Wetlands Site Conservation Plan

map date: 11/9/2017

HISTORICAL VEGETATION

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

Historical vegetation

- FALW - Closed forest; Riparian & Wetland
- FF - Closed forest; Upland
- FFA - Closed forest; Riparian & Wetland
- FFBu - Closed forest; Upland
- FFHC - Closed forest; Upland
- HW - Shrubland
- OFZ - Woodland
- SF - Savanna
- SFP - Savanna
- SOF - Savanna
- SOFP - Savanna
- WSU - Emergent wetlands

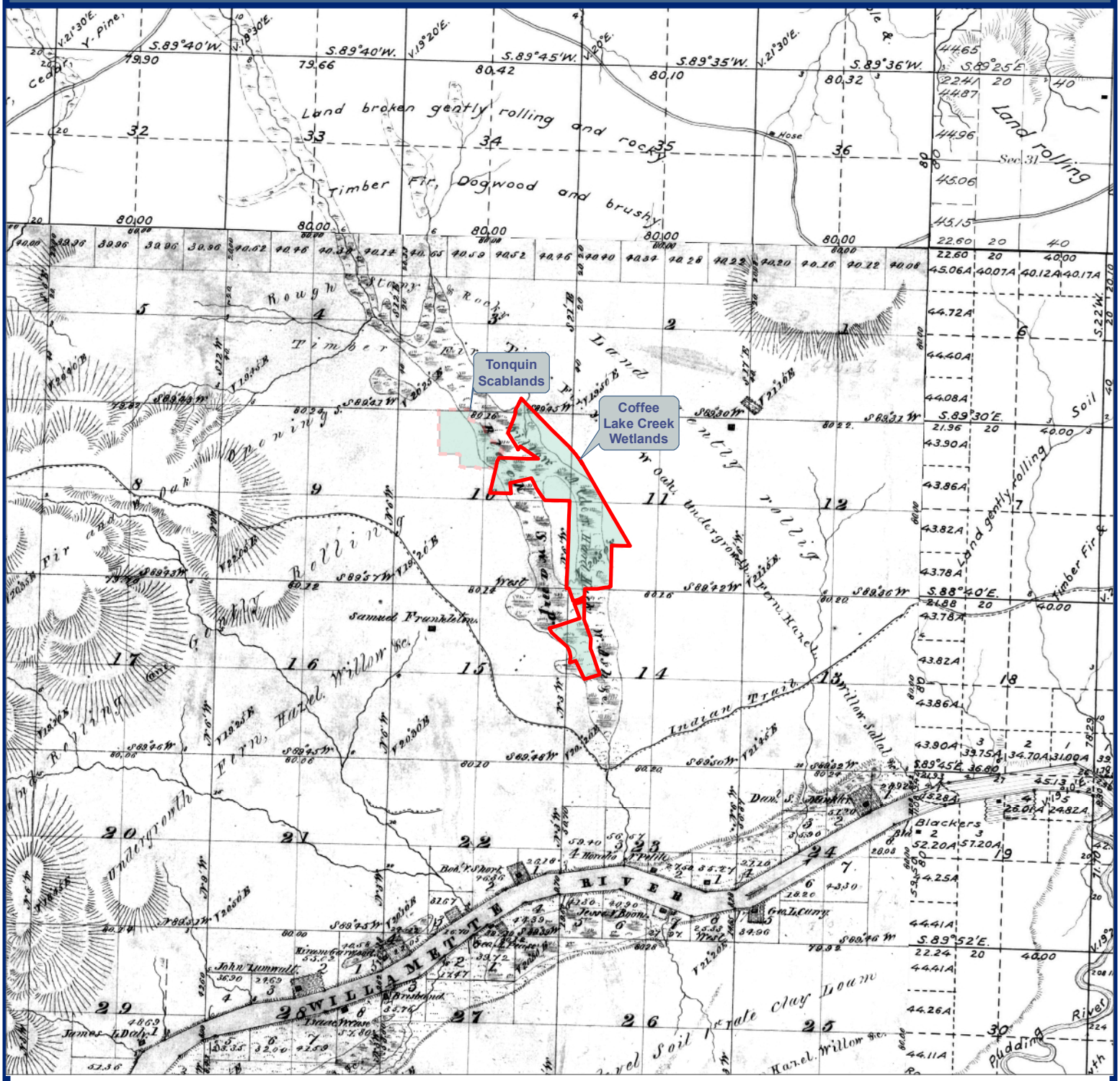
0 2,000 4,000 Feet

* Labels refer to vegetation subclasses. Detailed descriptions can be found in T:\OBMO\GIS\DATA_V\vegetation\Historical

GENERAL LAND OFFICE (GLO) MAP

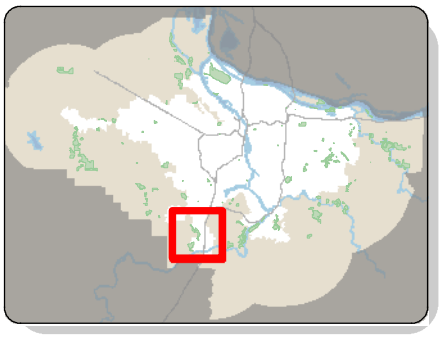
This map is the 1852 public land survey of the Portland, OR region.

Metro



Coffee Lake Creek Wetlands site

Other Metro sites



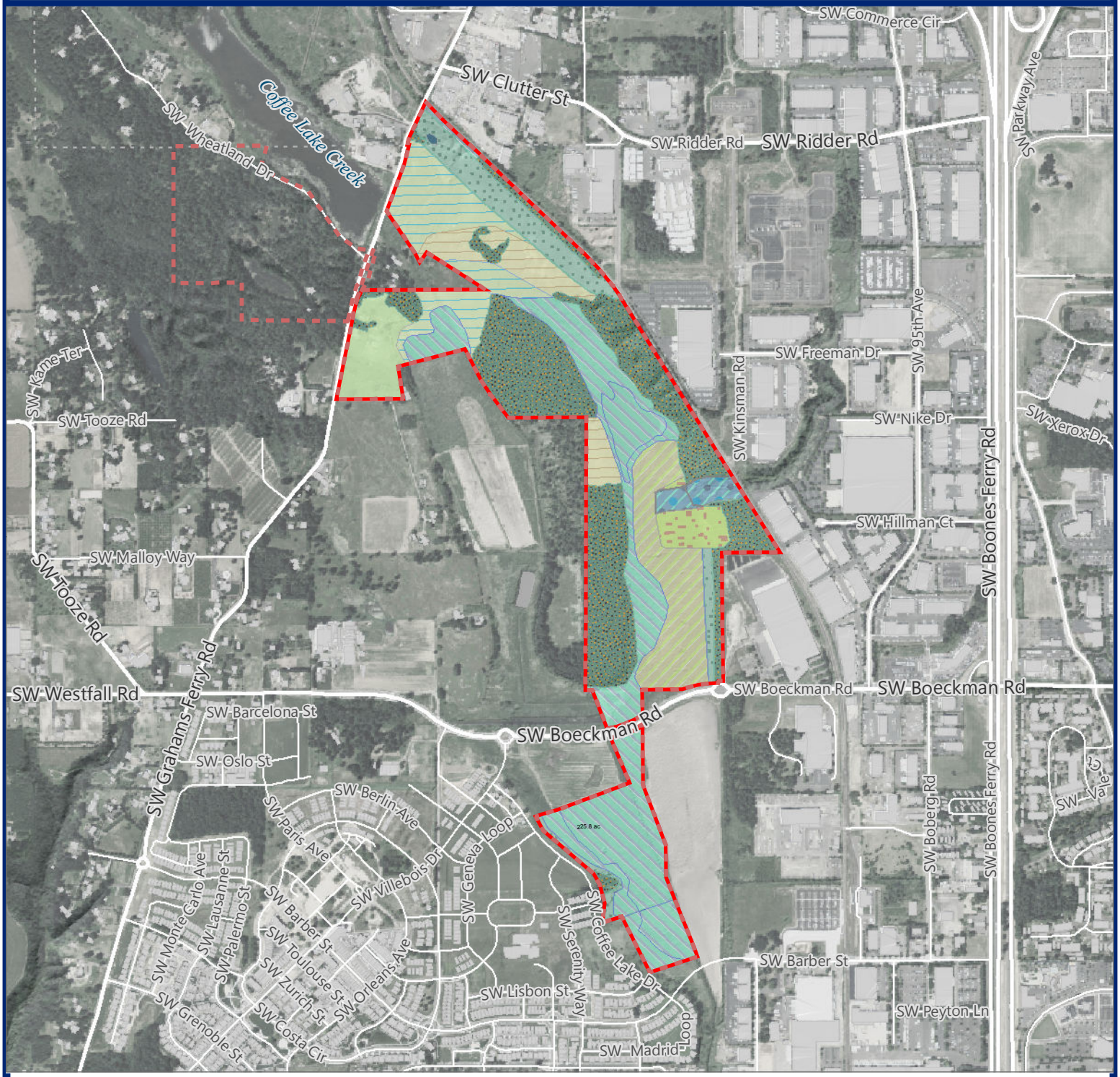
0 1 2 Miles

Coffee Lake Creek Wetlands Site Conservation Plan

map date: 12/21/2017

CURRENT COVER

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

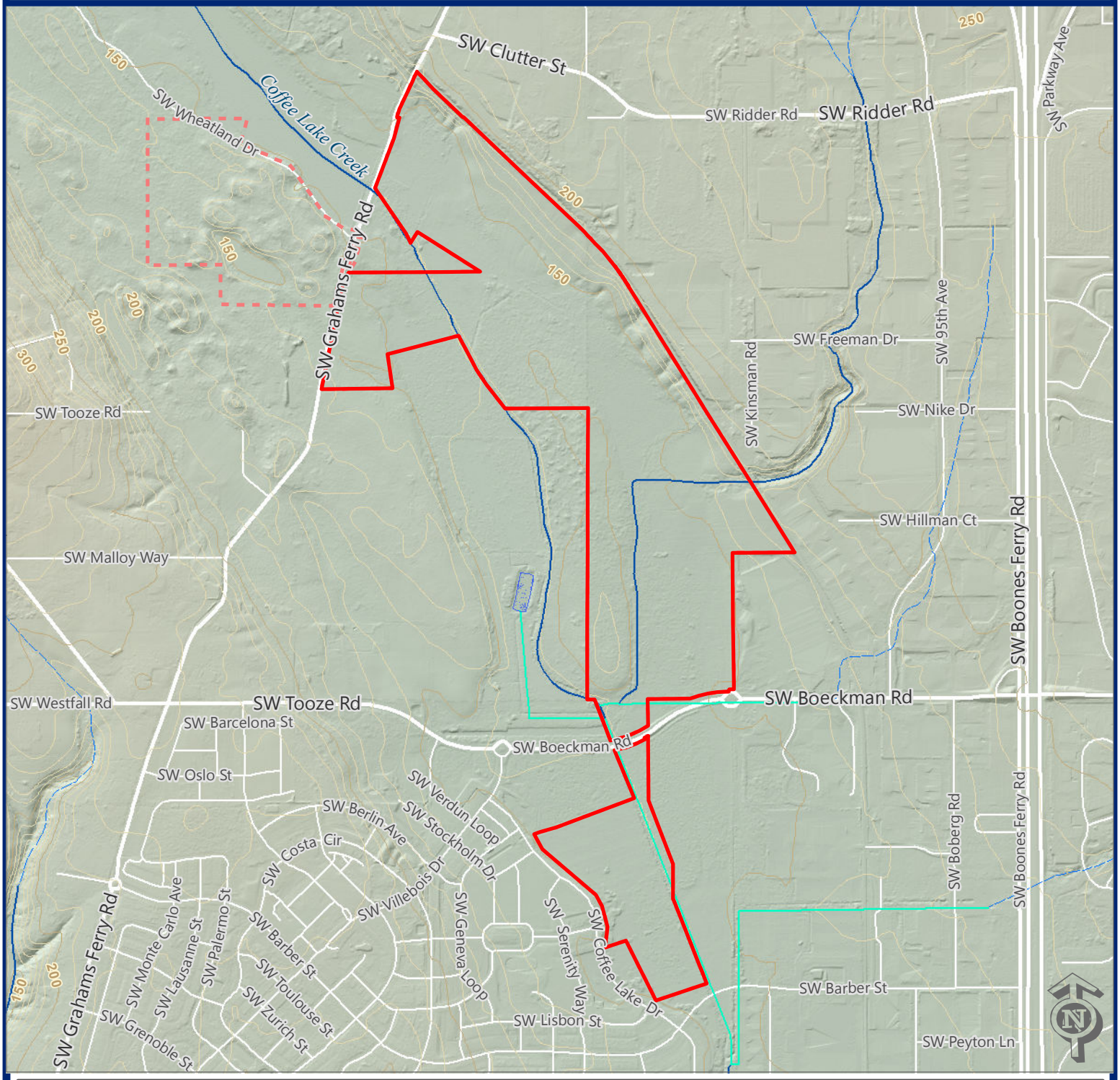
- Open water
- Prairie - (dry)
- Prairie - (wet)
- Riparian forest
- Savanna - oak
- Savanna - other
- Upland forest - mixed
- Upland forest - shrub (stage)
- Wetland - emergent
- Wetland - shrub

0 1,600 3,200 Feet

TOPOGRAPHY

See Page 7

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

NHDplusStrmFlowline

Intermittent stream

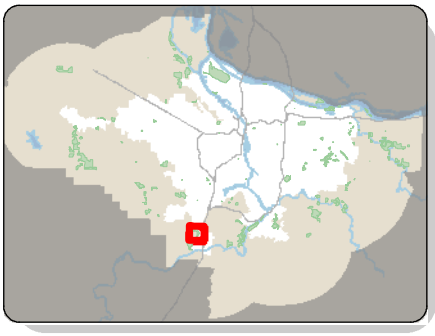
Perennial stream

Canal

10 ft contour

50 ft contour

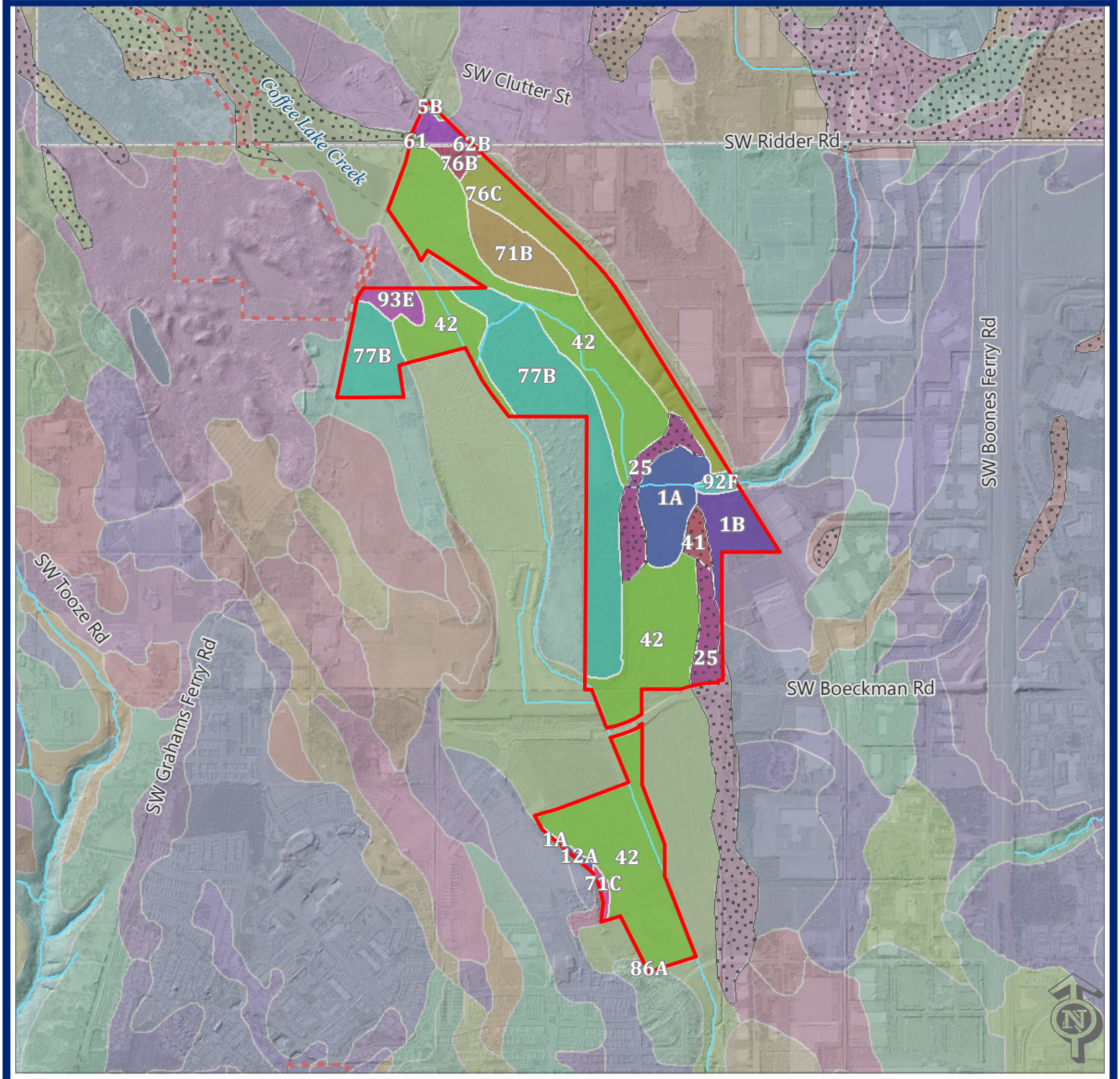
0 1,750 3,500 Feet



map date: 2/27/2018

SOILS

Metro



Coffee Lake Creek Wetlands site

Other Metro site

Hydric soils

County line

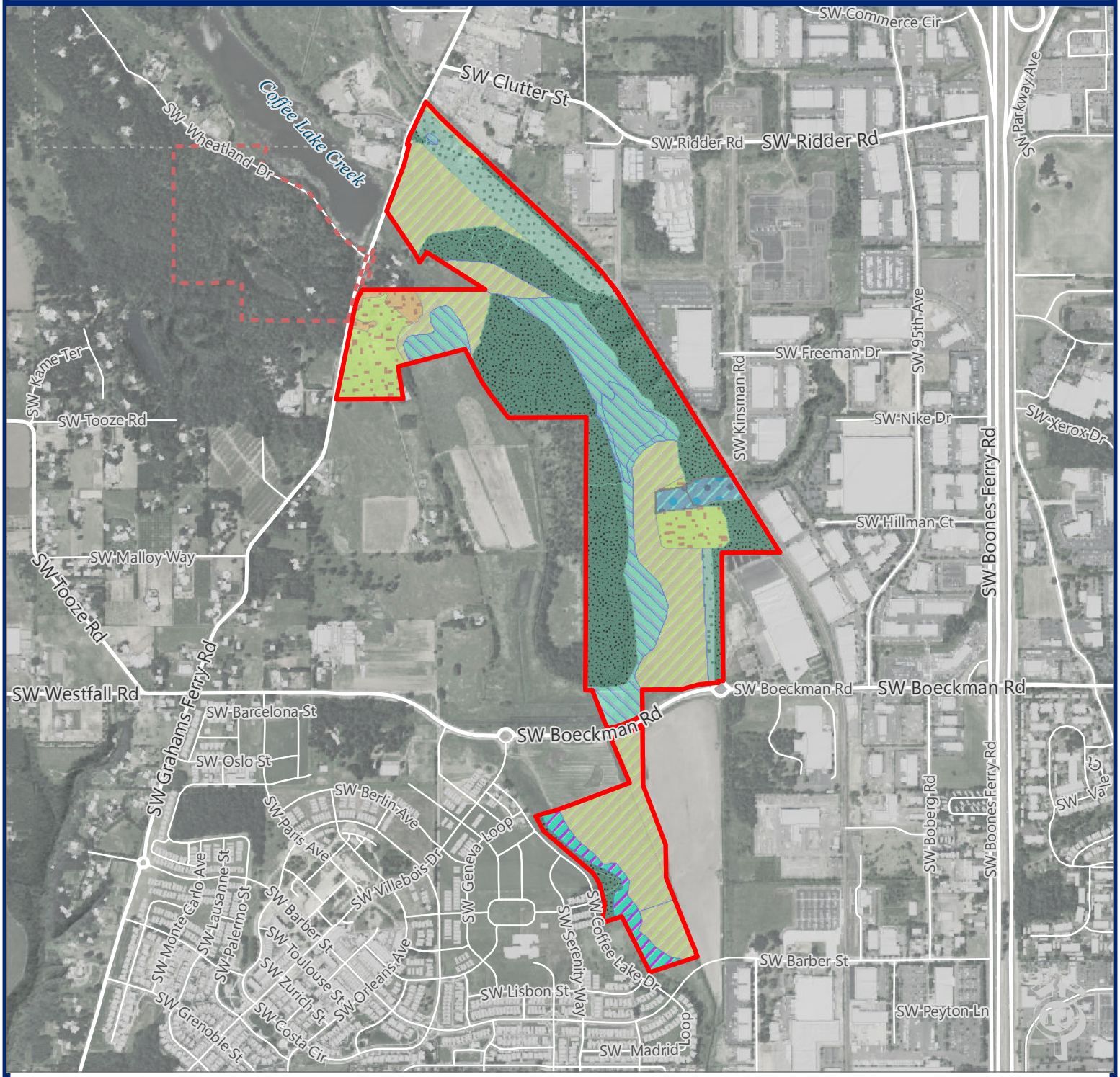
0 1,600 3,200 Feet

- 12A - Canderly sandy loam, 0 to 3 percent slopes
- 1A - Aloha silt loam, 0 to 3 percent slopes
- 1B - Aloha silt loam, 3 to 6 percent slopes
- 25 - Cove silty clay loam
- 41 - Huberly silt loam
- 42 - Humaquepts, ponded
- 5B - Briedwell stony silt loam, 0 to 7 percent slopes
- 61 - Humaquepts, ponded
- 62B - Salem silt loam, 0 to 7 percent slopes
- 71B - Quatama loam, 3 to 8 percent slopes
- 71C - Quatama loam, 8 to 15 percent slopes
- 76B - Salem silt loam, 0 to 7 percent slopes
- 76C - Salem silt loam, 7 to 12 percent slopes
- 77B - Salem gravelly silt loam, 0 to 7 percent slopes
- 86A - Willamette silt loam, 0 to 3 percent slopes
- 92F - Xerochrepts and Haploxerolls, very steep
- 93E - Xerochrepts-Rock outcrop complex, moderately steep

map date: 2/27/2018

CONSERVATION TARGETS

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

- Bottomland hardwood wetland
- Emergent wetland
- Oak savanna
- Oak woodland
- Riparian forest
- Shrub dominated wetland
- Upland forest
- Upland forest - shrub (early successional)

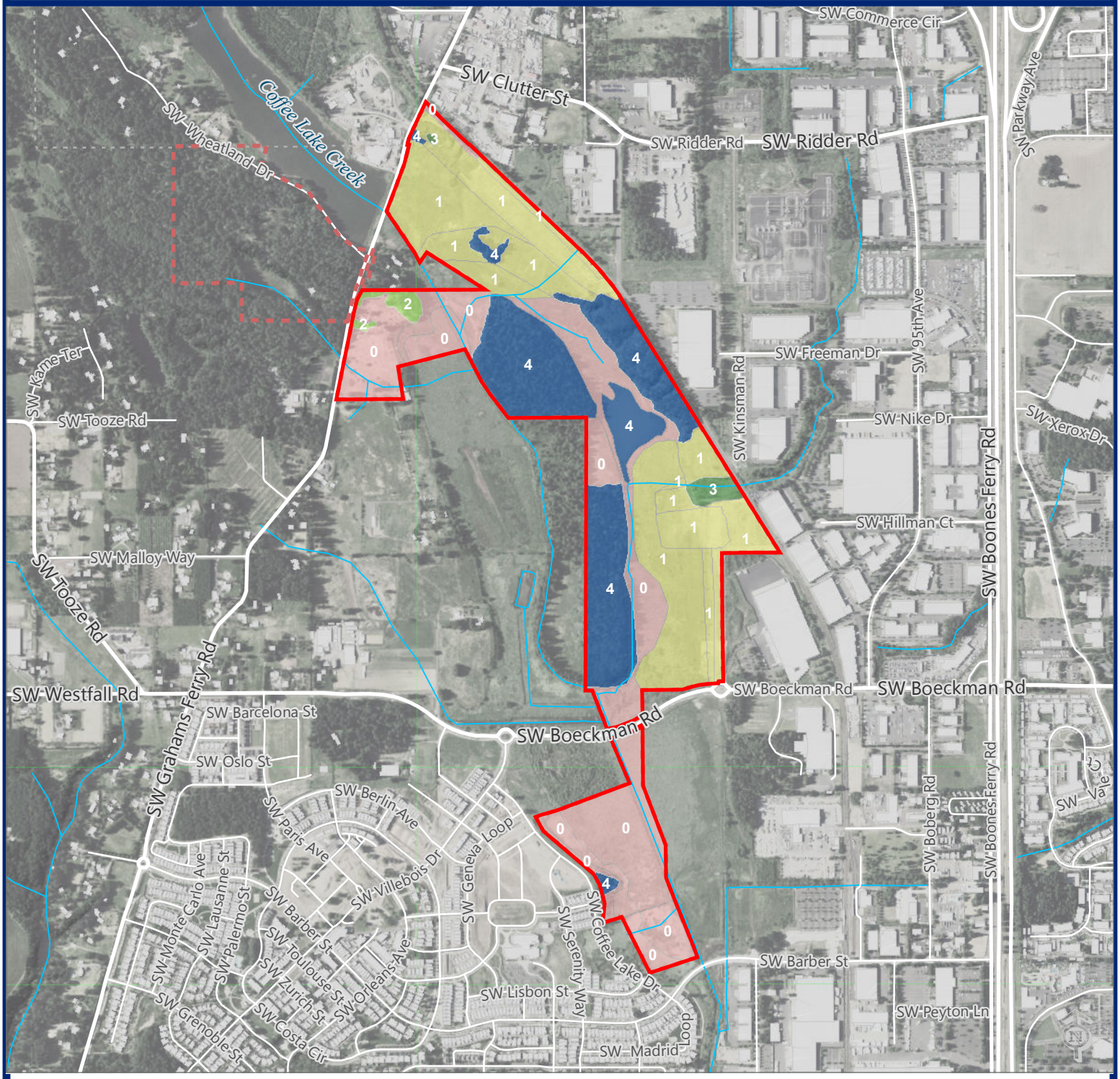
0 1,600 3,200 Feet

Coffee Lake Creek Wetlands Site Conservation Plan

map date: 2/27/2018

MANAGEMENT STATUS

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

0 - Pre-Initiation

1 - Initiation

2 - Establishment

3 - Consolidation

4 - Refinement and long-term maintenance

9 - No targets (developed)

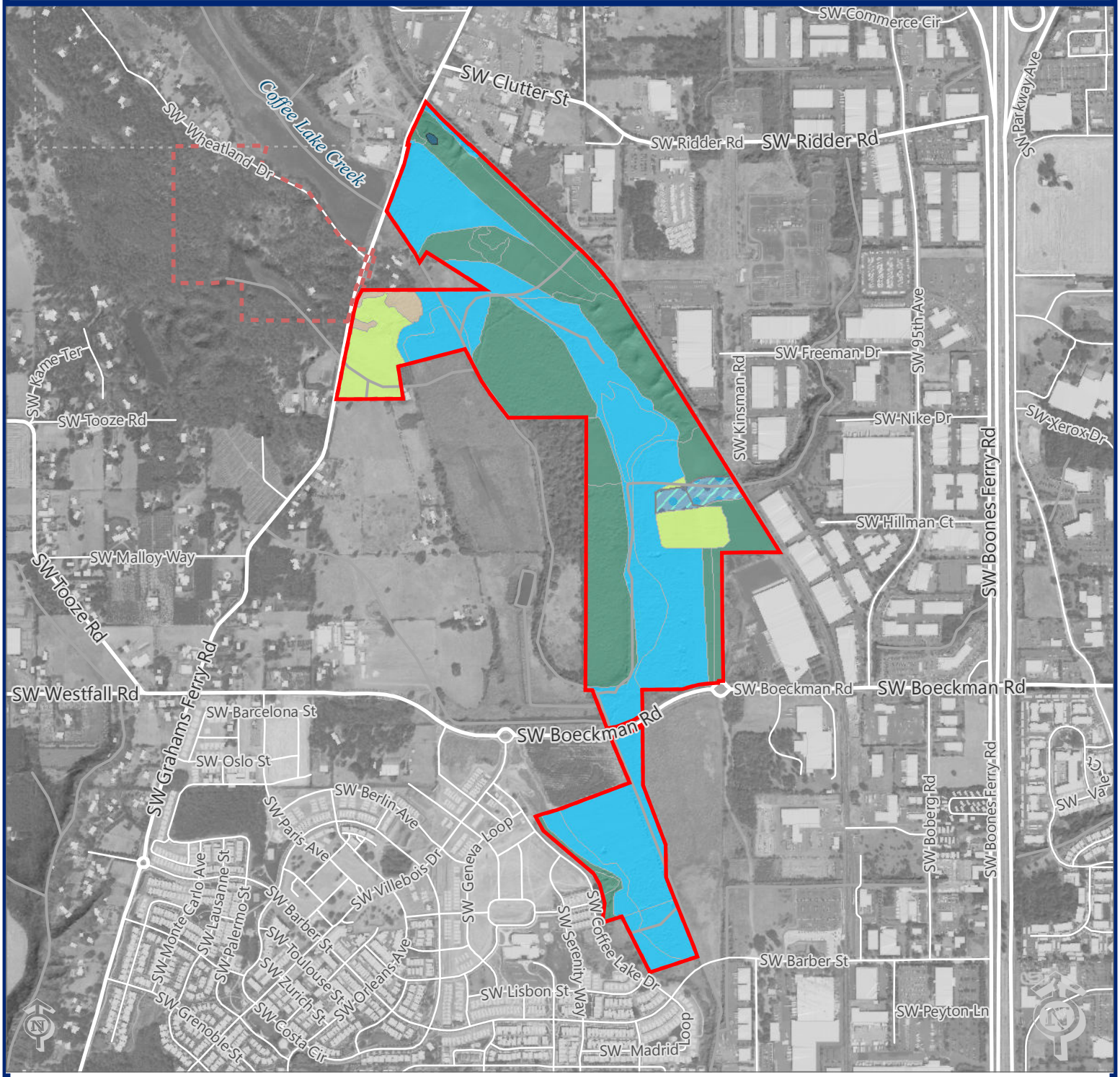
0 1,600 3,200 Feet

Coffee Lake Creek Wetlands Site Conservation Plan

map date: 2/27/2018

STEWARDSHIP CLASS

Metro



Coffee Lake Creek Wetlands site

Other Metro sites

Stewardship Class

- Agriculture
- Beaches, bars and mudflats
- Developed
- Prairie
- Riparian forest
- Savanna
- Upland forest
- Water
- Wetland
- Woodland
- Undeclared

0 1,600 3,200 Feet

Coffee Lake Creek Wetlands Site Conservation Plan

map date: 2/27/2018