

**Heritage Pine Natural Area**

**Approvals for Site Stewardship Plan**

Date first routed: March 5, 2019

**Justin Takkunen**

Signature

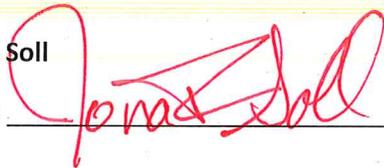


Date

6/10/19

**Jonathan Soll**

Signature



Date

2/25/2020

**Dan Moeller**

Signature

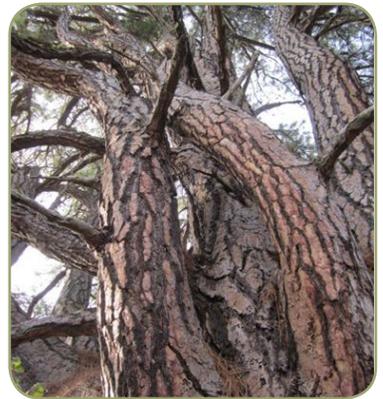


Date

10/30/19

SITE STEWARDSHIP PLAN

# Heritage Pine Natural Area



February 2019



Metro

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## HERITAGE PINE NATURAL AREA SITE INFORMATION

### LOCATION

Address: 18805 SW Pacific Drive, Sherwood, OR 97140

County: Washington

Number of acres: 202.50

Metro file no.: S 11.03

**Table 1: Metro natural area bond purchased land for Heritage Pine Natural Area**

PROPERTY NAME	FILE NO.	BOND YEAR	DATE ACQUIRED	MANAGEMENT	ACRES
Moreland Trust	11.001	1995	11/25/1996	Metro	147.81
Keck	11.027	2006	12/19/2016	Metro	51.00

## SECTION 1: INTRODUCTION

### 1.1 CONTEXT

Heritage Pine Natural Area is an approximately 202-acre property located near Sherwood, Oregon, just east of the Tualatin River National Wildlife Refuge (see Map 2). The site is roughly bordered by the Tualatin River to the north, SW Pacific Drive to the south, a high density residential neighborhood to the east and an undeveloped forest parcel and Tualatin River National Wildlife Refuge land to the west. Heritage Pine is part of the Tualatin River Greenway target area and borders the urban growth boundary to the east. Heritage Pine falls within the Washington County rural reserve and is zoned as Exclusive Farm Use. The natural area is entirely within the approved boundary of the Tualatin River National Wildlife Refuge. Metro and the Tualatin River National Wildlife Refuge entered into an intergovernmental agreement to allow restoration and management of approximately 50 acres of the Heritage Pine Natural Area as part of the National Wildlife Refuge system.

### 1.2 SITE STEWARDSHIP PLAN GOALS AND USES

Site Stewardship Plans (SSPs) and Site Conservation Plans (SCPs) are sister documents. SCPs document conservation targets, desired future conditions, and key threats, providing a long-term vision for the site for internal and external audiences. Though rarely fully updated, SCPs are periodically revised to document strategic implementation and reflect on lessons learned through adaptive management. SCPs provide guidance for short- and long-term stewardship actions that the Natural Areas Land Management Team will take to reduce threats and increase conservation target health.

SSPs provide a five to ten-year outlook for ongoing care of a site, shaping a vision of options and costs to facilitate thoughtful decisions using available resources. SSPs are primarily an internal working document and address vegetation management, such as invasive species control, and infrastructure maintenance for items such as fences, gates, and water control structures. SSPs are updated periodically as key restoration or access and development projects are implemented.

This SSP provides information necessary to:

- Protect natural resources supporting wildlife habitat and water quality.
- Define key actions that help achieve desired future conditions of conservation targets.
- Define key actions required to maintain infrastructure.
- Provide cost estimates for actions.
- Prioritize actions and document implementation.

The major stewardship issues of concern at Heritage Pine Natural Area include:

- Invasive species management.
- Erosion from roads.
- Unauthorized access and encroachments.

## SECTION 2: CONSERVATION TARGETS AND DESIRED FUTURE CONDITIONS

### 2.1 MAJOR HABITAT TYPES

Heritage Pine Natural Area consists of a variety of habitats including upland and riparian mixed forest, wet prairie, emergent wetland and a small area of oak woodland (Table 2; Map 3). The site has approximately 5,100 feet of frontage on the Tualatin River and the riparian forest is relatively intact along most of that length. There are three areas with narrow riparian buffers – one to the north adjacent to the wet prairie, another cultivated area to the east and a third area to the east associated with ground water monitoring wells. More detailed descriptions are available in the SCP.

**Table 2: Major habitat types at Heritage Pine Natural Area**

<b>HABITAT TYPE</b>	<b>ACRES</b>
Agriculture	97.8
Developed (pervious)	6.4
Emergent wetland	5.9
Oak woodland	4.9
Riparian forest	61
Upland forest – mixed	13.9
Upland forest – shrub	12.7

### 2.2 CONSERVATION TARGETS

Conservation targets are composed of a suite of species, communities and ecological systems that represent and encompass the full array of native biodiversity of the site, reflect local and regional conservation goals and are viable or at least feasibly restorable. Using onsite natural habitat types and regional conservation planning efforts as guides, conservation targets were selected that encompass the site’s biodiversity values and regional conservation targets. The targets at Heritage Pine Natural Area are:

- Wet prairie
- Riparian forest
- Oak woodland

- Upland forest
- Emergent wetland

Appendix A summarizes the conservation targets, key ecological attributes, threats and strategic short- and long-term stewardship actions that can help address threats to these conservation targets. For more information, see the Site Conservation Plan.

It is important to prioritize restoration and stewardship activities for several reasons. Budgetary or time constraints are likely to limit how much work can be accomplished at a given site. Specific actions may rise to the top due to the scarce or unique nature of a habitat type or because abating a certain threat now will save time and money in the future. The SCP prioritizes conservation targets while Appendix B of this SSP assigns priority rankings to key actions; this does not mean that the other actions are not important, simply that they are not the most important actions within the next five to ten years.

### **2.3 SPECIAL OR SENSITIVE HABITAT**

Nelson's checkermallow (*Sidalcea nelsoniana*), listed under the federal Endangered Species Act as threatened, has one known location at Heritage Pine: planted along the margin between the wetland and wet prairie area. As of 2017, the survival rate of these plantings is only 10 percent. The low survival rate is likely due to heavy non-native grass cover and lack of follow-up maintenance on the plantings. In addition, the oak woodland habitat on the property is sensitive and care should be taken around this area.

Operational limitations of the water control structure are linked to Upper Willamette River Chinook salmon (*Oncorhynchus tshawytscha*) and Upper Willamette River steelhead (*Oncorhynchus mykiss*) evolutionarily significant units, both which are listed as threatened by the National Marine Fisheries Service. In flooding events where water from the Tualatin overtops the floodplain and fills the wetland, there is the possibility that juvenile salmon and steelhead will travel into the wetlands trapping them. See the SCP for more details.

## **SECTION 3: STEWARDSHIP ACTIONS**

Stewardship actions are broken up into five primary stewardship categories: site monitoring, vegetation management, access and infrastructure, water resources, and wildlife habitat as described below. Terramet includes the full list of stewardship categories, actions and tasks. Appendix B-1 describes strategic stewardship actions for each category needed over the next five to ten years, and Appendix B-2 provides a budget for these actions, as well as additional actions that may be warranted given sufficient time or funds.

### **3.1 SITE MONITORING**

Monitoring at the Heritage Pine Natural Area is an integral part of an adaptive management approach to restoration and stewardship. Based on the monitoring plan developed by Metro, a feedback loop is created between monitoring and management decisions. Monitoring will be done to evaluate habitat, population responses to management action, as well as progress toward achieving habitat and population objectives.

Key monitoring actions at Heritage Pine Natural Area may include:

- Regular site walks to identify issues such as hunting, illegal dumping, illegal access and inappropriate public use/access.
- Vegetation monitoring.
- Encroachment and unpermitted use of internal roads by neighbors.

### **3.2 VEGETATION MANAGEMENT**

Key vegetation management actions for the next five to ten years at Heritage Pine Natural Area relate primarily to:

- Invasive weed control of priority invasive species of concern. Specifically, eliminate a patch of garlic mustard and monitor for success or spread.
- Maintenance of tree and shrub plantings in areas treated for invasive species.

Many of these actions span multiple habitat areas and conservation targets.

Metro has initiated an early detection and rapid response (EDRR) program for certain invasive species. These EDRR species will be controlled by hand pulling or herbicide application as they are detected in the natural area. Other invasive plant species will be controlled as part of restoration projects or ongoing management of habitat areas. See Appendix C for a list of invasive species.

### **3.3 ACCESS AND INFRASTRUCTURE**

Infrastructure generally includes human constructs such as maintenance roads, gates, fences, culverts, and signs. This category of stewardship actions may also include inventory property encroachments or surveying property lines. See Map 4 for spatial information on access and infrastructure at Heritage Pine Natural Area.

Key access and infrastructure actions at Heritage Pine Natural Area are:

- Remove barbed wire fence running south to north along boundary between the Keck and Morand parcels and through oaks downslope from the rental house.
- Decommission and remove hay shed.
- Remove infrastructure and debris at the Keck acquisition. This includes: phone booth, abandoned car, abandoned trailer, rain barrel, one car tire, hunting stand and discarded linoleum (see Keck Phase I ESA for locations).
- Assess Kummrow Road for road improvements as needed.

### **3.4 WATER RESOURCES**

Water resources stewardship actions are generally defined as maintenance of infrastructure associated with streams, rivers or wetlands at the site. Examples include maintenance of large wood structures, water control structures, or other water resource related actions and tasks.

Key water resources actions at Heritage Pine Natural Area are:

- Revisit function of water control structure to understand operation limitations. Visual assessment of residual drain tile function.

### **3.5 WILDLIFE HABITAT**

Wildlife habitat structures are specific features installed to improve wildlife habitat. Examples include nest boxes, turtle logs or platforms, beaver exclusion fencing and other associated wildlife related actions and tasks.

Key wildlife habitat actions at Heritage Pine Natural Area may include:

- Opportunities for creating snags, down wood, brush piles, etc. in oak woodland, riparian forest and upland forest.

## **SECTION 4: COORDINATION**

This Site Stewardship Plan outlines strategic development and restoration actions to be carried out at Heritage Pine Natural Area over the next five to ten years. These actions include natural resource, access, and infrastructure improvements that require implementation plans and communications between Planning, Land Management and Science staff about long term stewardship costs. Implementation of these actions will have impacts to future stewardship and management of the site. This section is intended to identify actions that need additional coordination.

### **Actions that require coordination**

- Agricultural lease management on site will require periodic access and communication between the property management, land management, and science teams, and the lessee farmers.
- Residential lease management will require periodic communication between the property management, land management, and science teams, and Century 21 Turner Properties.

### **Current and potential partners**

- USFWS Tualatin River National Wildlife Refuge
- Clean Water Services
- Tualatin Riverkeepers

## **SECTION 5: VOLUNTEERS AND COMMUNITY ENGAGEMENT**

The primary goal of the volunteer program is to provide a variety of high-quality, meaningful volunteer opportunities that add value and capacity to Metro's work. Through these opportunities, community members are able to learn about and enjoy Heritage Pine Natural Area, work alongside fellow community members, learn new skills or polish existing ones, and gain the satisfaction of contributing to the long-term health and livability of their communities.

Heritage Pine Natural Area is currently not a focus area for Metro's volunteer program. However, the Tualatin River National Wildlife Refuge offers volunteer and educational opportunities through

Friends of the Refuge and will look for opportunities to utilize this resource at the Heritage Pine Natural Area.

## **SECTION 6: SITE MANAGEMENT**

Metro's management of Heritage Pine Natural Area includes enforcement of the posted rules to provide protection for wildlife, water quality, and to protect the safety and enjoyment of any person visiting these facilities. The following sections describe key elements to management of the site.

### **6.1 FIRE INCIDENT ACTION PLAN**

A fire incident action plan has been developed for this site (Appendix D, Map 5).

### **6.2 PUBLIC ACCESS**

There is no formal public access at Heritage Pine Natural Area and the site appears to have little public use. Past documentation indicated that the public occasionally used the access road, adjacent private property and Kummrow Avenue to drive a loop and access the river. This usage seems to have abated as there is no evidence of vehicular access through the site.

The entry driveway is off Southwest Pacific Drive and is shared by two private properties. This road passes the rental property on the site and effectively ends just past the water control structure providing access to the prairie and wetland. Hunters associated with the Kummrow property adjacent to the Keck acquisition do still access this property using Kummrow Avenue and it appears that they drive across the Keck field. This will have to be addressed, especially before initiating prairie restoration.

It should be noted that two prominent trails are proposed to pass through the site: Ice Age Tonquin Trail and the Tualatin River Greenway Trail. There is also the desire to explore possibilities of non-motorized boat launch on the site to provide water access for the Tualatin River Water Trail.

See the Site Conservation Plan for further information regarding future public access.

### **6.3 SPECIAL USE PERMITS**

Special use permits (SUPs) are required for certain regulated and non-traditional uses of Metro's parks and natural areas to ensure public health and safety and to protect natural resources, properties and facilities.<sup>1</sup>

Current and historical SUPs for this site can be found in Terramet in the Site Documents section of the Heritage Pine Natural Area Docs & Agreements page. This site has no typically recurring SUPs at this time.

### **6.4 DEED RESTRICTIONS, EASEMENTS AND OTHER SITE AGREEMENTS**

The acquisition of a property under the Natural Area Program may sometimes include deed restrictions that place limitations on the use of the land. Deed restrictions can include restrictions

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<sup>1</sup> More information regarding policies, guidelines, and applications can be found at [www.oregonmetro.gov/specialuse](http://www.oregonmetro.gov/specialuse).

on tree cutting, establish landscaping requirements, or establish road maintenance fees. Acquisitions may also include easements that entitle the holder to certain uses or rights on the property. Easements can include utility easements, easements of access, and conservation easements. Metro may enter into other voluntary agreements including intergovernmental agreements (IGAs) with other agencies and management agreements with non-governmental organizations.

Existing deed restrictions, easements and other site agreements include:

**Keck (File #11.027)**

- Easement granted to adjoining property owners for the purpose of roadway rights incidental thereto, as granted in a document recorded on 5/26/1902 in Book 58, Page 398. The easement is substantially the same right-of-way (SW Kummrow Road) as referenced below.
- Easement granted to adjoining property owners for the purpose of roadway and rights incidental thereto, as granted in a document recorded on 5/26/1902 in Book 58, Page 399. It is substantially the same right-of-way as referenced above and which was codified (and enlarged) in the court case referenced below.
- Easement granted to adjoining property owners for the purpose of roadway and rights incidental thereto, as granted in Partition Suit No. 9413 filed in the Circuit Court of Washington County, Oregon and disclosed by Bargain and Sale deed recorded 10/14/1976 in Book 1118, Page 920.

**Morand Trust (File #11.001)**

- IGA (contract 923294) with the US Fish & Wildlife Service to manage the natural portion of Morand/Heritage Pine NA. Effective 7/31/2001, expiring 6/29/2030.
- Deed restriction – Notice of Environmental Contamination – effective 3/16/2017 (perpetual): DEQ issued a Conditional No Further Action letter related to SFPP pipeline spill (NE corner of site). Conditions included recording notice of environmental contamination on site.
- Contaminated Media Management Plan outlines how to address this area going forward. Many more DEQ-related files can be found in Terramet and in the legal acquisition paper files.
- PGE easement, underground utility lines. PGE power line easement, on both sides of the BPA fee.
- Southern Pacific Pipelines, Inc. easement for a pipeline – 20’ strip of land between Pacific Highway and the Tualatin River, directly adjacent and parallel to the easterly line of the BPA power line easement.
- The premises is within the assessment district of the Unified Sewerage Agency of Washington County.

- Terms and provisions, including obligation to maintain an easement as established by Oregon law and by instrument. This is Seller’s beneficial easement over the BPA transmission line fee that bisects the property. Easement owner is responsible for keeping it free of tress, brush, noxious weeds, stacked or stored materials, and buildings or structures. Our statutory obligation is generally to maintain the easement at a ratio consistent with our pro-rata share of use.
- The rights of the public to that portion of the premises that lies within public road and right-of-ways.

For more detailed information on any of the above agreements, please refer to the Terramet acquisition pages or the legal acquisition hard copy files for the properties that make up this site.

## **6.5 RESIDENTIAL OR AGRICULTURAL LEASE AGREEMENTS**

Some Metro Natural Areas include a residence or multiple residences on the site. If and when it is decided to rent out a residence, a rental agreement is developed by Metro. This agreement describes the lease terms, any rental restrictions, and acceptable uses of the lease area. In some cases the lease area is delineated on the ground by installation of markers such as carsonite posts, t-posts, or fencing. Some standard lease terms include a month-to-month term, pet restrictions, no hunting, and no commercial activities.

Metro may enter into agricultural lease agreements when the acquisition comes with an existing agricultural lease, farming fulfills management goals, or the preservation of available agricultural land and historic farming practices is desired. The agricultural lease delineates the boundaries of the farmed area and can include specific requirements including crop planted, herbicides used, and equipment used.

Existing lease agreements (Map 6) include:

### **Residential**

- Morand Trust – Residential lease (contract 921285, Map 6) to Century 21 Turner Properties effective 7/01/2018 and expiring 6/30/2019.

### **Agricultural**

- Morand Trust – Agricultural lease (contract 922023, Map 6) of 75 acres to Hoffman Farms Contracting and Jay Hoffman effective 6/23/2017 and renewing in perpetuity unless notice is given by either party.

For more detailed information on any of the above leases, please refer to the Agreements section of the Terramet site page for Heritage Pine Natural Area or the Leases tab of the Terramet Administration Agreements page.

## **MAPS**

**Map 1** – Vicinity

**Map 2** – Site

**Map 3** – Current Cover

**Map 4** – Site Infrastructure

**Map 5** – Fire Incident Action Plan

**Map 6** – Agricultural Lease

**Map 7** – Residential Lease

## **APPENDICES**

**Appendix A** – Summary of Conservation Target KEA, Threats, Goals

**Appendix B** – Stewardship Actions

B-1 Summary of Stewardship Actions

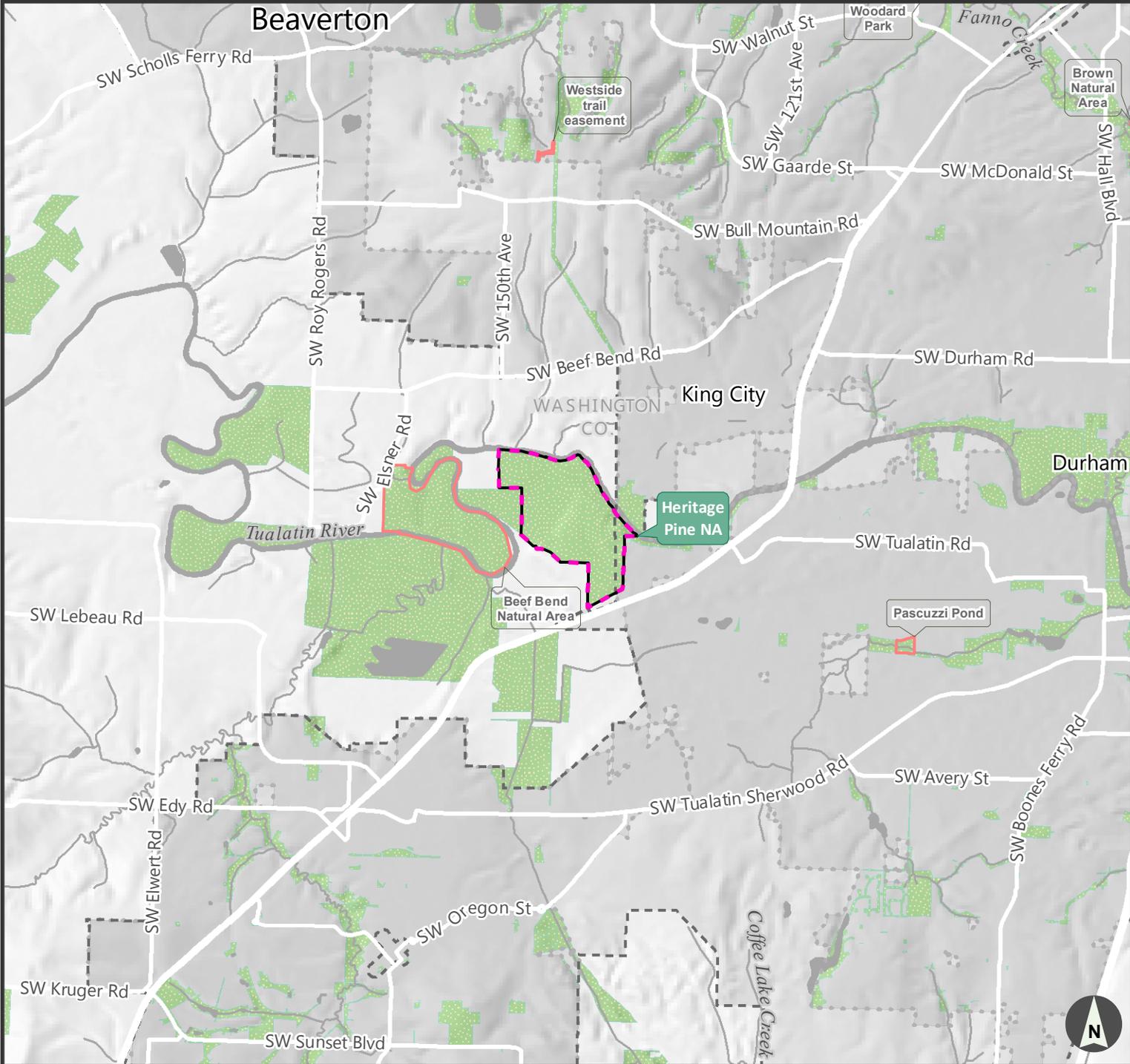
B-2 Budget for Stewardship Actions

**Appendix C** – Invasive Species

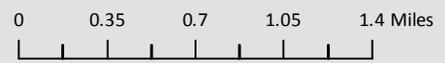
**Appendix D** – Incident Action Plan



# Vicinity map



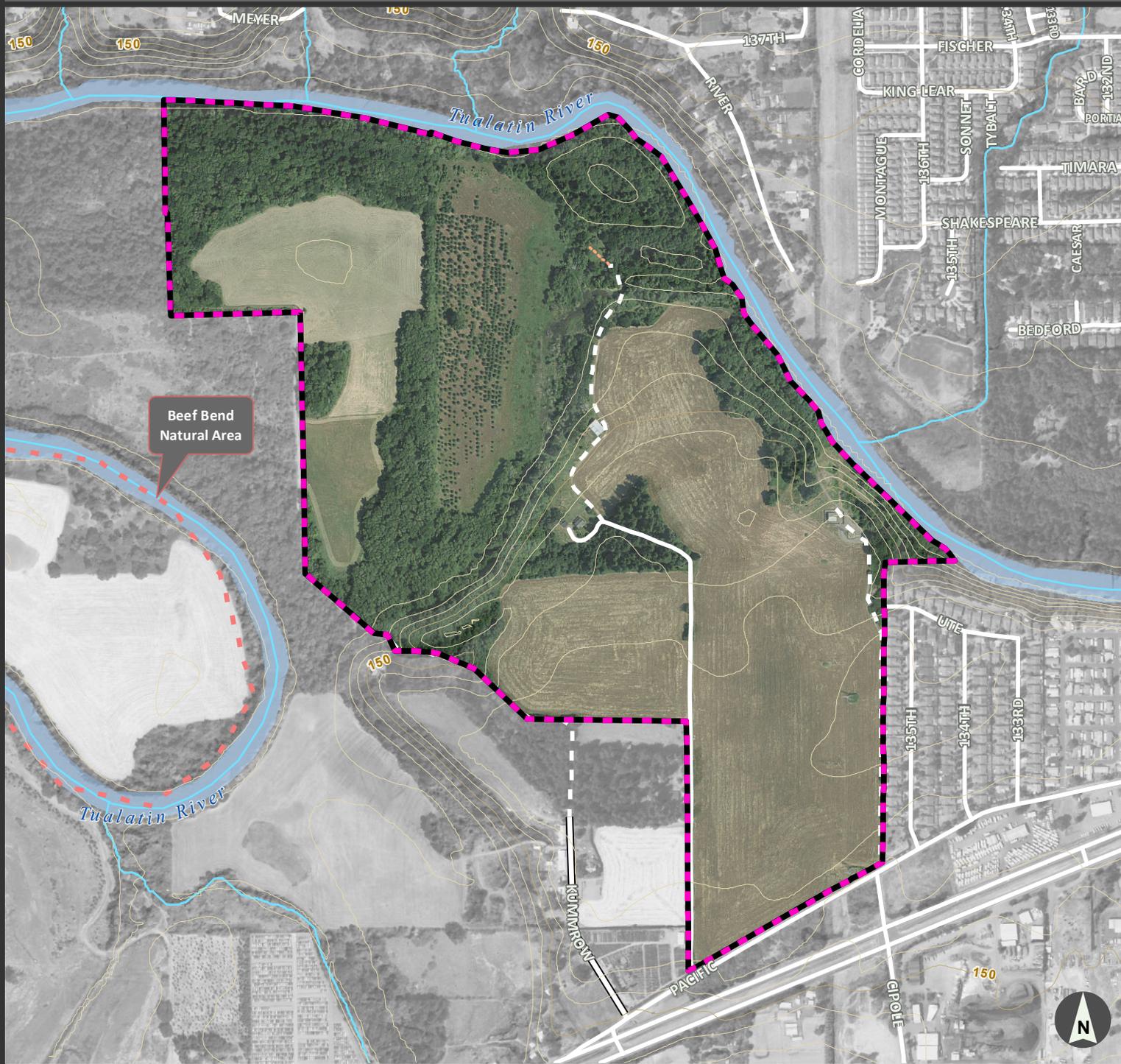
-  Heritage Pine Natural Area
-  Other Metro sites
-  Parks and/or Natural Areas



# Heritage Pine NA

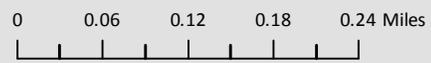


# Site map



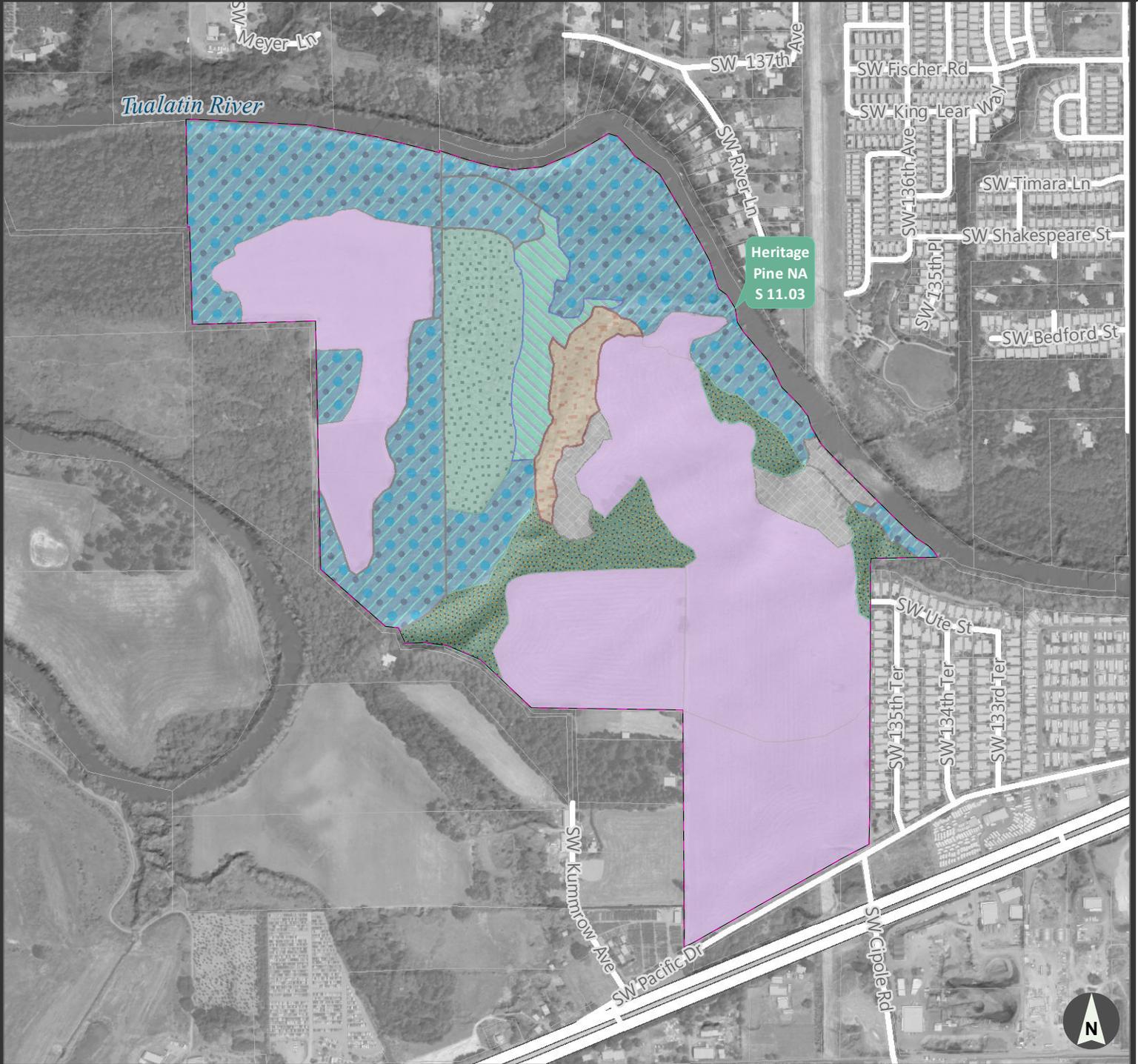
Beef Bend Natural Area

- Heritage Pine NA
- other Metro managed site
- Streams
- 10 ft contour
- 50 ft contour
- other (unmaintained or historic)
- paved/driveway
- dirt/gravel
- 4x4 /dry season





# Current cover map



 Heritage Pine NA site

-  Agriculture
-  Developed - (pervious/non ag)
-  Riparian forest
-  Upland forest - mixed

-  Upland forest - shrub (stage)
-  Wetland - emergent
-  Woodland - oak



Featured site

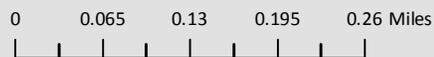
# Heritage Pine NA



# Site infrastructure map



	Featured site		Pump House		house		water source		Fence
	other Metro site Labels		Water Control Structure		structure				
	Residential rental								
Road network on site									
	other (unmaintained or historic)								
	paved/driveway								
	dirt/gravel								



# Fire Incident Action Plan



primary entrance: approx 18805 SW Pacific Drive, Sherwood, OR 97140



- |                                  |                   |              |
|----------------------------------|-------------------|--------------|
| <b>Featured site</b>             | Proximal Hydrants | Pump House   |
| Other Metro site Labels          | Structures        | house        |
| <b>Roads</b>                     | Fire districts    | structure    |
| other (unmaintained or historic) | Fence             | water source |
| paved/driveway                   |                   |              |
| dirt/gravel                      |                   |              |
| 4x4 / dry season                 |                   |              |



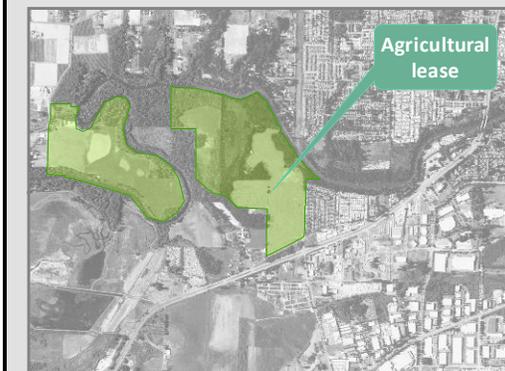
# Agricultural lease area map

18805 SW Pacific Drive Sherwood, OR 97140

Site Stewardship Plan



Metro



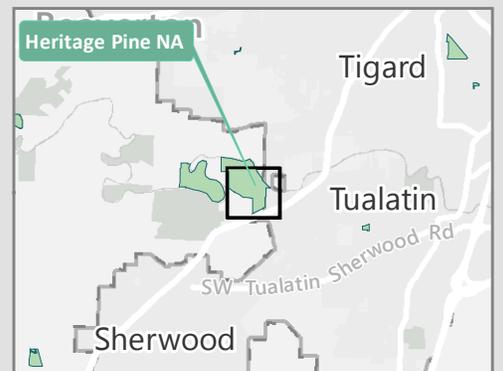
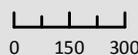
Agricultural lease

## Legend

 Lease area



1 inch = 521 feet



Heritage Pine NA

Tigard

Tualatin

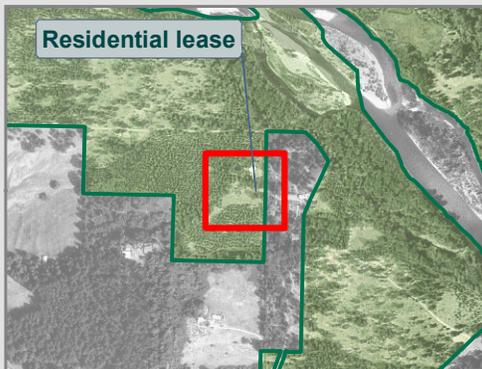
SW Tualatin Sherwood Rd

Sherwood

# Heritage Pine NA

Imagery in color is a Metro Agricultural lease

Metro Parks & Nature - map date: 2/1/2019

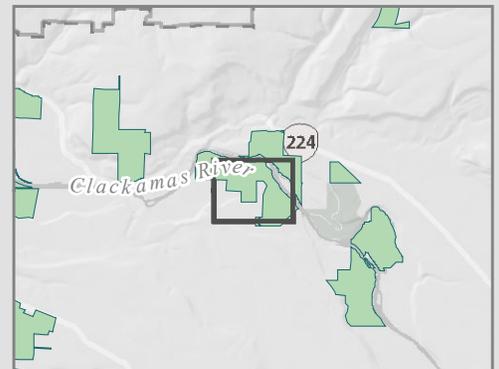
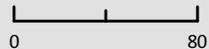


**Legend**

-  Featured Site
-  Lease area



1 inch = 83 feet



## APPENDIX A

### HERITAGE PINE NATURAL AREA

Conservation Target Summary Table for Heritage Pine Natural Area - summary of conservation target key ecological attributes (KEAs), significant threats, and strategic restoration actions. The priority assignment refers to the habitat(s) in most immediate need of attention.

CONSERVATION TARGET	KEY ECOLOGICAL ATTRIBUTES (KEAs)	SIGNIFICANT THREATS	STRATEGIC RESTORATION AND STEWARDSHIP ACTIONS & PRIORITY RANK
Wet prairie	<ul style="list-style-type: none"> <li>Grassland and bird habitat</li> <li>Vegetative cover; woody species</li> <li>Native grass and forb presence</li> <li>Proximity (distance) to other target habitat patches</li> <li>Hydrology</li> </ul>	<ul style="list-style-type: none"> <li>Planted pine, oak and shrub species</li> <li>Altered hydroperiod</li> <li>Land conversion</li> <li>Land use</li> <li>Climate change</li> </ul>	<p><i>High priority</i></p> <ul style="list-style-type: none"> <li>Removal of woody vegetation; conduct invasive control and native species enhancement</li> </ul> <p><i>Medium priority</i></p> <ul style="list-style-type: none"> <li>Explore acquisition opportunities to connect Heritage Pine Natural Area with TRNWR or to expand natural area</li> <li>Revisit function of water control structure to understand operation limitations. Visual assessment of residual drain tile function.</li> </ul>
Oak woodland	<ul style="list-style-type: none"> <li>Habitat area</li> <li>Native grass and forb abundance</li> <li>Vegetation structure</li> <li>Edge condition</li> </ul>	<ul style="list-style-type: none"> <li>Invasive species</li> <li>Land conversion</li> <li>Shade producing native tree species such as Douglas-fir, big leaf maple and Oregon ash</li> <li>Land use (agricultural)</li> </ul>	<p><i>High priority</i></p> <ul style="list-style-type: none"> <li>Implement oak release on large open grown oaks; remove encroaching overstory trees</li> <li>Eliminate small patch of garlic mustard to stop it from spreading; track through site-wide EDRR</li> </ul> <p><i>Medium priority</i></p> <ul style="list-style-type: none"> <li>Explore removal of house and outbuildings and implement if feasible; expansion of oak woodland</li> <li>Treat patches of blackberry and other invasive species across site and plant native trees and shrubs or grasses/forbs where appropriate</li> <li>Explore acquisition opportunities to connect Heritage Pine Natural Area with TRNWR or to expand natural area</li> </ul> <p><i>Low priority</i></p> <ul style="list-style-type: none"> <li>Explore retirement of agricultural lease and expand upland forest and oak woodland</li> </ul>
Riparian forest	<ul style="list-style-type: none"> <li>Riparian forest width</li> <li>Vegetative structure: tree layer</li> <li>Native tree and shrub richness</li> <li>Standing and downed dead trees</li> <li>Floodwater access to the floodplain</li> </ul>	<ul style="list-style-type: none"> <li>Invasive species</li> <li>Land use</li> <li>Shade producing native tree species such as Douglas-fir, big leaf maple and Oregon ash</li> <li>Land conversion</li> <li>Climate change</li> </ul>	<p><i>Medium priority</i></p> <ul style="list-style-type: none"> <li>Treat patches of blackberry and other invasive species across site and plant native trees and shrubs or grasses/forbs where appropriate, including riparian planting failure north of the wet prairie. Improve riparian and upland forest understory through invasive tree treatments.</li> <li>Maintain riparian forest in good condition and with a good density of over and understory species. Restore and plant patchy areas to increase roughness on floodplain.</li> <li>Explore acquisition opportunities to connect Heritage Pine Natural Area with TRNWR or to expand natural area</li> </ul> <p><i>Low priority</i></p> <ul style="list-style-type: none"> <li>Enhance upland and riparian forest complexity by snag and downed wood creation where appropriate</li> <li>Targeted oak release</li> </ul>
Upland forest	<ul style="list-style-type: none"> <li>Forested habitat patch size</li> <li>Native tree and shrub richness</li> <li>Mature trees</li> <li>Standing and downed dead trees</li> <li>Edge condition</li> </ul>	<ul style="list-style-type: none"> <li>Invasive species</li> <li>Land use</li> <li>Land conversion</li> <li>Climate change</li> </ul>	<p><i>Medium priority</i></p> <ul style="list-style-type: none"> <li>Treat patches of blackberry and other invasive species across site and plant native trees and shrubs or grasses/forbs where appropriate. Improve riparian and upland forest understory through invasive tree treatments.</li> <li>Explore acquisition opportunities to connect Heritage Pine Natural Area with TRNWR or to expand natural area</li> </ul> <p><i>Low priority</i></p> <ul style="list-style-type: none"> <li>Enhance upland and riparian forest complexity by snag and downed wood creation where appropriate</li> <li>Explore retirement of agricultural lease and expand upland forest and oak woodland</li> </ul>
Emergent wetland	<ul style="list-style-type: none"> <li>Native wetland plant cover in emergent area</li> <li>Vegetative structure</li> <li>Hydrology</li> </ul>	<ul style="list-style-type: none"> <li>Invasive species</li> <li>Altered hydroperiod</li> <li>Land use</li> <li>Land conversion</li> <li>Climate change</li> </ul>	<p><i>High priority</i></p> <ul style="list-style-type: none"> <li>Treat invasive reed canarygrass and blackberry; enhance native species cover</li> </ul> <p><i>Medium priority</i></p> <ul style="list-style-type: none"> <li>Investigate current operation of water control structure limitations and opportunities in addition to scouting for still functioning drain tiles and ditches to further enhance emergent wetland habitat</li> <li>Explore acquisition opportunities to connect Heritage Pine Natural Area with TRNWR or to expand natural area</li> </ul>

## APPENDIX B-1

### HERITAGE PINE NATURAL AREA SUMMARY OF STEWARDSHIP ACTIONS

#### Stewardship actions planned for the next five to ten years at Heritage Pine Natural Area.

*(Estimated costs and potential additional actions that could take place, depending on time and resources, are in Appendix B-2)*

PROJECT TYPE	DESCRIPTION	TIMING/FREQUENCY	COMPLETED BY
<b>SITE MONITORING</b>			
Other monitor – site walk	Regular site walks to identify issues such as hunting, illegal dumping, illegal access and inappropriate public use/access.	Quarterly	Natural Resource Specialist/Technician
Vegetation monitoring – invasive weeds	Vegetation monitoring for invasive weeds.	Quarterly	Natural Resource Specialist/Technician
<b>VEGETATION MANAGEMENT</b>			
Invasive weed control	Invasive weed control of priority invasive species of concern.	Quarterly (seasonally dependent)	Natural Resource Specialist/Technician
Planting – tree and shrub	Maintenance of tree and shrub plantings in areas treated for invasive species.	As planned	Natural Resource Specialist/Technician
<b>ACCESS AND INFRASTRUCTURE</b>			
Fence	Remove barbed wire fence running south to north along agricultural boundary and through oaks.	Once	Natural Resource Specialist/Technician
Building	Decommission and remove hay shed.	Once	Natural Resource Specialist/Property Management team
<b>WATER RESOURCES</b>			
Water control structure	Revisit function of water control structure to understand operation limitations. Visual assessment of residual drain tile function.	TBD	Natural Resource Specialist/Scientist
<b>WILDLIFE HABITAT</b>			
Terrestrial wildlife habitat – snags, down wood, brush pile	Opportunities for creating snags, down wood, brush pile etc. in oak woodland, riparian forest and upland forest.	TBD	Natural Resource Specialist

APPENDIX B-2

HERITAGE PINE NATURAL AREA BUDGET TABLE

10-year budget for stewardship actions

UNIT/AREA	MAINTENANCE CATEGORY	PROJECT TYPE	DESCRIPTION OF TASKS	HABITAT TYPE OR CONSERVATION TARGET	TIMING/FREQUENCY	PRIORITY	COST BY FISCAL YEAR									
							FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
North end of ag field	Access and infrastructure	Fence removal	Remove barbed wire fence running south to north along agricultural bounday and through oaks	Oak woodland	Seasonal	Medium	\$0	\$100	\$100	\$100	\$100	\$100	\$0	\$0	\$0	\$0
Near rental house	Access and infrastructure	Hay shed removal	Decommission and remove hay shed	Oak woodland	Once	Medium	\$0	\$0	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site wide	Vegetation management	Invasive weed control	Invasive weed control of priority invasive species of concern	All, site wide	Quarterly	Medium	\$9,600	\$2,700	\$2,700	\$2,700	\$2,700	\$2,700	\$2,700	\$2,700	\$2,700	\$2,700
Upland forest	Vegetation management	Planting - tree and shrub	Plant trees and shrubs in areas treated for invasive species	Upland forest	Quarterly	Medium	\$7,900	\$4,600	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500
<b>Totals</b>							<b>\$17,500</b>	<b>\$7,400</b>	<b>\$26,300</b>	<b>\$6,300</b>	<b>\$6,300</b>	<b>\$6,300</b>	<b>\$6,200</b>	<b>\$6,200</b>	<b>\$6,200</b>	<b>\$6,200</b>

## APPENDIX C

### HERITAGE PINE NATURAL AREA INVASIVE SPECIES

The table below summarizes a preliminary list of invasive plants in all or parts of Heritage Pine Natural Area, including focus areas and timing for control if needed. The list is compiled from the data collected during the 2014 weed mapping project, and reviewed and updated by the Natural Areas Land Management team. A list of noxious weeds for Oregon, including descriptions and photos, can be found at: [www.oregon.gov/ODA/PLANT/WEEDS/statelist2.shtml](http://www.oregon.gov/ODA/PLANT/WEEDS/statelist2.shtml).

#### Working list of priority non-native species at Heritage Pine Natural Area (EDRR species are bolded in red)

GENUS	SPECIES	COMMON NAME	FOCUS AREA FOR DETECTION/CONTROL	CONTROL TIMING
<i>Alliaria</i>	<b><i>petiolata</i></b>	<b>Garlic mustard</b>	Upland forest	Spring
<i>Arum</i>	<b><i>italicum</i></b>	<b>Lords and ladies</b>	Upland forest	Spring
<i>Buddleia</i>	<b><i> davidii</i></b>	<b>Butterfly bush</b>	Upland/riparian forest	Fall
<i>Cirsium</i>	<i>arvense</i>	Canada thistle	Oak woodland	Late spring/fall
<i>Cirsium</i>	<i>vulgare</i>	Bull thistle	Oak woodland	Late spring/fall
<i>Clematis</i>	<i>vitalba</i>	Clematis	Upland/riparian forest	Fall
<i>Conium</i>	<b><i>maculatum</i></b>	<b>Poison hemlock</b>	Upland/riparian forest	Spring
<i>Crataegus</i>	spp.	Hawthorn	Upland forest	Fall
<i>Cytisus</i>	<i>scoparius</i>	Scots broom	Oak woodland/upland forest	Spring
<i>Gernanium</i>	<i>robertianum</i>	Herb Robert	Upland forest	Fall
<i>Hedera</i>	spp.	Ivy	Upland forest	Winter
<i>Ilex</i>	<i>aquifolium</i>	English holly	Upland forest	Winter
<i>Melissa</i>	<i>officinalis</i>	Common balm	Oak woodland	Spring/fall
<i>Phalaris</i>	<i>arundinacea</i>	Reed canarygrass	Riparian forest/wetland	Fall
<i>Prunus</i>	<i>avium</i>	Sweet cherry	Upland forest	Winter
<i>Rubus</i>	<i>bifrons</i>	Himalayan blackberry	Upland forest/oak woodland	Fall
<i>Senecio</i>	<b><i>jacobaea</i></b>	<b>Tansy ragwort</b>	Upland forest	Spring
<i>Solanum</i>	<b><i>dulcamara</i></b>	<b>Bittersweet nightshade</b>	Upland forest	Fall
<i>Umbellularia</i>	<i>californica</i>	California laurel	Upland forest	Fall
<i>Vinca</i>	<i>minor</i>	Vinca minor	Upland forest	Fall

## Incident Action Plan

### APPENDIX D

#### HERITAGE PINE NATURAL AREA

##### Address/access points

Address:

- Approximately 18805 SW Pacific Drive, Sherwood, OR 97140

Primary access (gravel road)

- 18805 SW Pacific Drive, Sherwood, OR 97140
- Latitude: 45°23'2.40"N; Longitude: 122°49'15.51"W
- Gate – no lock

Secondary access 1 (gravel road):

- No situs; enter from SW Pacific Drive, across from SW Cipole Road
- Latitude: 45°23'7.67"N; Longitude: 122°49'2.29"W
- Gate – Metro A lock

Secondary access 2 (unimproved gravel/dirt road)

- No situs; enter from SW Pacific Drive and take a left on Kummrow Ave.
- Latitude: 45°23'0.15"N; Longitude: 122°49'20.12"W
- No gate

##### Location

Primary access and secondary access 1 & 2:

- T2S R1W S21

##### Acreage

202.50

##### Structures

- Rental house: located at the edge of the ag field
- Hay shed: located near the rental house
- Industrial shed, secured with chain link: located near the water control structure
- Water control structure: located at the northern end of the ag field near the wetland

See Map 4.

##### Water sources and staging areas

Water can be sourced from the Tualatin River, the water control structure and the pump station.

See Map 4.

### Sensitive habitat

Nelson’s checkermallow is listed under the federal Endangered Species Act as threatened and has one known location at Heritage Pine: along the margin between the wetland and wet prairie. Between 2010 and 2017 the survival rate for this species has been just 10 percent. Oak woodland habitat on the edges of the agricultural land is sensitive and should be treated with care.

In addition, threated juvenile salmon and steelhead species may get trapped in the wetland area during flooding events where the water from the Tualatin River overtops the floodplain and fills the wetland. Details regarding the operations of the water control to account for such events is listed in the SCP and can also be found in the Morand *Metro Property Report 2001-2011* Appendix A section 1.5.1.3.

### Contact information\*

#### Metro Conservation Program

Justin Takkunen, Natural Areas Land Manager	503-964-2386 (cell)
Adam Stellmacher, Natural Resource Specialist	503-807-4018 (cell)
Jeff Merrill, Natural Resource Scientist	503-312-0007 (cell)
Yuxing Zheng, Communications Coordinator	971-344-2207 (cell)

#### Sheriff/police department

Emergency	911
Police Dept., non-emergency	503-625-5523

#### Local fire department

Tualatin Valley Fire & Rescue Station #35	503-649-8577
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#### Tenants

##### *Residential Lease*

Century 21 Turner Properties 10725 SW Barbur Blvd. Ste. 350 Portland, OR 97219	503-297-1014
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##### *Agricultural Lease*

Jay Hoffman, Hoffman Farms Contracting 22307 SW Munger Lane Sherwood, OR 97140	503-628-0772
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*\*Please see Terramet for most up to date contact information.*