Bald Hill Farm Management Plan

November 25, 2014

greenbelt land trust

Bald Hill Farm Management Plan

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Table of Contents

Section 1: Introduction and Background 1

1.1 Introduction 1

1.2 Management Plan Purpose and Timeframe 1

1.3 Acquisition History and Ownership 2

1.4 Site Overview, Landscape Context, and Ecological Significance 2

1.5 The Vision of Bald Hill Farm Conservation Area 5

1.6 Bald Hill Farm Conservation Easements 6

1.6.1 BPA Conservation Easement 6

1.6.2 OWEB Conservation Easement 8

1.6.3 Conservation Values 8

1.7 Fender's Blue Butterfly and Kincaid's Lupine Memorandum of Agreement 9

1.8 USFWS Cooperative Endangered Species Conservation Grant Program 10

1.9 Summary of Reporting Requirements 11

1.10 Related Studies, Reports, Inventories, and Plans 11

Section 2: Site History and Existing Condition 13

2.1 Historical Context 13

2.1.1 Native American Influences and Cultural Significance 13

2.1.2 Historical Vegetation Patterns 13

2.1.3 Establishment and History of Bald Hill Farm 16

2.2 Landform 16

2.2.1 Topography 16

2.2.2 Geomorphic Surfaces 18

2.2.3 Soils 18

2.3 Zoning and Adjacent Uses 18

2.4 Hydrology and Water Use 19

2.4.1 Creeks and Ponds 19

2.4.2 Wetlands 20

2.4.3 Water Rights, Wells, and Irrigation 20

2.5 Current Land Cover and Use 21

2.6 Vegetation 21

2.6.1 Existing Vegetation Communities 21

2.6.2 Rare and Uncommon Plant Populations 29

2.6.3 Invasive Exotic Vegetation 30

2.7 Wildlife 32

2.7.1 Strategy and Priority Wildlife Species 32
2.7.2 Other Noteworthy Native Wildlife 33
2.7.3 Non-Native Wildlife 33

2.8 Existing Facilities and Infrastructure 34
2.8.1 Roads 34
2.8.2 Recreational Trails 34
2.8.3 Public Parking 35
2.8.4 Structures and Utilities 35
2.8.5 Fences 35
2.8.6 Signage 35

2.9 Agricultural Uses and Impacts 37

2.10 Forest Resources and Forest Stewardship Plan 37
2.10.1 Timber Cruise and Allowable Timber Harvest 38
2.10.2 Recommendations, Costs, and Revenues 39

2.11 Management Activities Completed Since GLT Acquisition 39

2.12 Cultural Resources 40

Section 3: Conservation Priorities, Constraints, and Opportunities 41

3.1 Conservation Priorities 41
3.1.1 Target Vegetation Communities and Nested Targets Species 42
3.1.2 Nested Targets Plant and Animal Species 43
3.1.3 Other Significant Vegetation Communities 45

3.2 Threats to Conservation Targets 45
3.2.1 Non-native invasive plant species 46
3.2.2 Conifer Encroachment 46
3.2.3 Woody Vegetation Encroachment 46
3.2.4 Improper Management of Livestock 46
3.2.5 Altered Fire Regime 46

3.3 Other Issues, Assets, and Opportunities 47
3.3.1 Habitat 47
3.3.2 Recreation, Education, and Research 48
3.3.3 Hydrology 49
3.3.4 Agriculture and Forestry 49
3.3.5 Facilities and Management Access 50

Section 4: Desired Future Conditions 52

4.1 Desired Future Condition: Vegetation Communities 52

4.2 Desired Future Condition: Agricultural Uses (see Objectives 5a and 5b) 54

4.3 Desired Future Condition: Recreation, Education, and Stewardship (see Objectives 5a-5d) *55*

4.4 Desired Future Condition: Facilities and Access (see Objectives 6a-6e) *55*

Section 5: Goals, Objectives, and Management Actions **57**

5.1 Overview and Organization *57*

5.2 Adaptive Management Approach *57*

5.3 Prioritization of Actions *58*

5.4 Bald Hill Farm Management Goals *58*

5.5 Management Objectives and Prioritized Actions *59*

6.0 Planning Process and Community Outreach **77**

6.1 Overview of Planning Process *77*

6.1.1 Partners Meeting *77*

6.1.2. Grazing Group Meeting *78*

6.1.3. Greenbelt Land Trust Board of Directors and Lands Committee *78*

6.2 Public Outreach *78*

Maps

Map-1: Site Context Map 4
Map-2: Easements and Overlays Map 7
Map-3: Historical Vegetation Map 14
Map-4: Topography and Surface Hydrology Map 17
Map-5: Geomorphic Surfaces 18
Map-6: Zoning Map 19
Map-7: Existing Vegetation Communities Map 24
Map-8: 2011 Infrared Aerial Photo 25
Map-9: Infrastructure and Facilities Map 36
Map-10: Desired Future Conditions Map 56
Map 11: Action Plan Map 60
Map 12: Monitoring Points Map 75

Figures

Figure 1-1: Willamette Valley Synthesis Opportunity Areas 3
Figure 1-2: Easements and Overlays Map 7
Figure 2-1: 1936 Aerial Photo 15
Figure 2-2: Timber Volume by Forest Type and Species 38
Figure 4-2: Change in Vegetation Communities from Existing to Desired Future Condition 54
Figure 5-1: Adaptive Management Diagram 57

Tables

Table 1-1: Conservation Values 8
Table 1-2: Reporting Requirements 11
Table 2-1: Soil Units 18
Table 2-2: Existing Land Cover 21
Table 2-3: Vegetation Communities 29
Table 2-4: Know Rare and Uncommon Plant Populations 30
Table 2-5: High and Medium Impact Invasive Species Present at Bald Hill Farm 31
Table 2-6: Strategy Species and Priority Species On or Near Bald Hill Farm 32
Table 2-7: Estimated Restoration Costs and Revenues 39
Table 3-1: Priority Conservation Habitats and Species 42
Table 3-2: Nested Target Plant Species 43
Table 3-3: Nested Target Wildlife Species 43
Table 3-4: Summary of Current Threats to Conservation Values 45
Table 4-1: Desired Future Conditions of Vegetation Communities 52
Table 6-1: Public Comments and Staff Recommendations and Responses 80

Appendices

A Fender's Blue Butterfly Memorandum of Agreement (May 28, 2013)
B USFWS Cooperative Endangered Species Conservation Grant Program – Notice of Federal Participation
C Carex Working Group Wetland Maps
D Botanical Survey and Rare Plant Assessment at Bald Hill Farm (July 2010)
E Botanical Survey of Forested Portions of Bald Hill Farm (October 2010)
F Bird Species Occurrence at Bald Hill Farm (June 2010)
G Forestry Stewardship Plan for Bald Hill Farm (June 2014)
H Grazing Plan for Bald Hill Farm (November 2014)
I Outreach Materials (Partner Meeting Agenda and Pubic Notices)

Section 1: Introduction and Background

1.1 Introduction

Bald Hill Farm is located in Benton County, a short distance from the city centers of Corvallis and Philomath, and is situated in close proximity to several permanently protected open spaces including Bald Hill Natural Area, Lupine Meadows, and Fitton Green Natural Area. The 588-acre property was acquired by the Greenbelt Land Trust (GLT) in 2013 and will be preserved and managed first and foremost as a high quality natural area. The site contains a diverse mosaic of open grasslands, oak savannas, woodlands, forest, wetlands, and riparian areas along with two perennial streams. Several rare or unique plant and animal populations are found on the site. GLT's acquisition of this valuable open space will preserve high quality native habitats and the species that depend on them. Its close proximity to the community will provide an ideal location for environmental education as well as low impact recreational trails. Carefully managed grazing and targeted timber harvest will be used as a tool to help maintain the site's open grassland and savanna habitats. GLT will manage this property and has granted the Oregon Watershed Enhancement Board (OWEB) and Bonneville Power Administration (BPA) conservation easements, ensuring permanent preservation of the site and long-term management of the site's defined Conservation Values (see Section 1.6.3). Additionally, GLT has entered into a formal Memorandum of Agreement (MOA) with the U.S. Fish & Wildlife Service (USFWS) to manage a portion of the site as habitat specifically for the endangered Fender's blue butterfly (*Icaricia icarioides fenderi*).

Bald Hill Farm looking southwest toward Marys Peak (RaptorViews)

1.2 Management Plan Purpose and Timeframe

The purpose of this Management Plan is to document historical and existing site conditions, describe a vision for the desired future condition, and provide detailed direction for short- and long-term management and restoration of the site's habitats and facilities. This Management Plan serves as the overarching guide to activities at the site over a twenty year time period (2014-2034) and will use an adaptive management approach, allowing for adjustment of management actions based on monitoring results, availability of funding, emerging threats, and opportunities.

As a contingency for acquisition funding, both BPA and OWEB required the development of a Management Plan and the USFWS MOA requires that the Management Plan include a section designated as a restoration area for the Fender's blue butterfly. Therefore, the contents and structure of this Management Plan are based on OWEB's *Management Plan Guidance* (August, 2013), BPA's *Land Management Planning Template for a Land Management Plan* (April, 2013), the *Fender's Blue Butterfly Memorandum of Agreement* (July, 2013), and the related *BPA Pole Replacement Biological Opinion* (August, 2009). Desired future conditions, goals, and recommended actions are consistent with the guidance provided in the site's Conservation Easements (BPA and OWEB, 2013) and the USFWS MOA and supportive of the site's defined Conservation Values. In accordance with the OWEB and BPA guidance, GLT will submit a brief summary report to OWEB every 5 years. The report will summarize use and management of the property and updates on how GLT's actions are enhancing the site's Conservation Values. Also an annual report

summarizing management activities and expenditures will be submitted to BPA. This Management Plan may be revised prior to 2034 with agreement of GLT, BPA, and OWEB if most of the management objectives are completed and an updated set of conservation goals and actions are warranted. Otherwise, in 2034 or shortly before, GLT, BPA, and OWEB will determine what process may be implemented to revise any management goals and objectives (See Section 1.10 for table of reporting requirements).

1.3 Acquisition History and Ownership

GLT officially initiated a campaign in 2010 to purchase Bald Hill Farm from the previous landowners and long-time GLT supporters, Andrew and Lauralee Martin. Over the subsequent three year period, GLT was able to build broad community support and enthusiasm for the proposed acquisition, and secure state and federal grant funds to acquire the property. The $4.03 million acquisition was completed through two separate land transactions in May and July 2013. Funding to complete the transactions was provided from a combination of sources including private donations, the landowner's bargain sale, the OWEB's Acquisition Grant Program, the USFWS Cooperative Endangered Species Conservation Grant Program (Section 6-HCP funds), and BPA's Transmission Line and Willamette Wildlife Mitigation Programs.

> *"I grew up in Corvallis, and feel a sense of responsibility to this community to help realize the vision of a comprehensive trail system around its edges. This was a landscape that was meant to be preserved for trails and as open space."*
>
> –Andrew Martin

1.4 Site Overview, Landscape Context, and Ecological Significance

Bald Hill Farm is adjacent to the cities of Corvallis and Philomath, Oregon and provides a permanently protected conservation area for generations to come. The site is bordered by the 284-acre City of Corvallis-owned Bald Hill Natural Area to the east, GLT's 58-acre Lupine Meadows property to the south, and is in close proximity to Benton County's 308-acre Fitton Green Natural Area to the west. Combined, these areas constitute a permanently protected area of open space totaling 1,237 acres. Bald Hill Natural Area, Bald Hill Farm, and Fitton Green Natural area are currently connected through a popular network of publicly accessible trails and provide an outstanding recreational and educational resource for the community. Other land uses surrounding Bald Hill Farm include a mix of properties currently used for farm and forest production and residential home sites. A portion of Bald Hill Farm resides within the western edge of the Corvallis Urban Growth Boundary (UGB) and northern edge of the Philomath UGB.

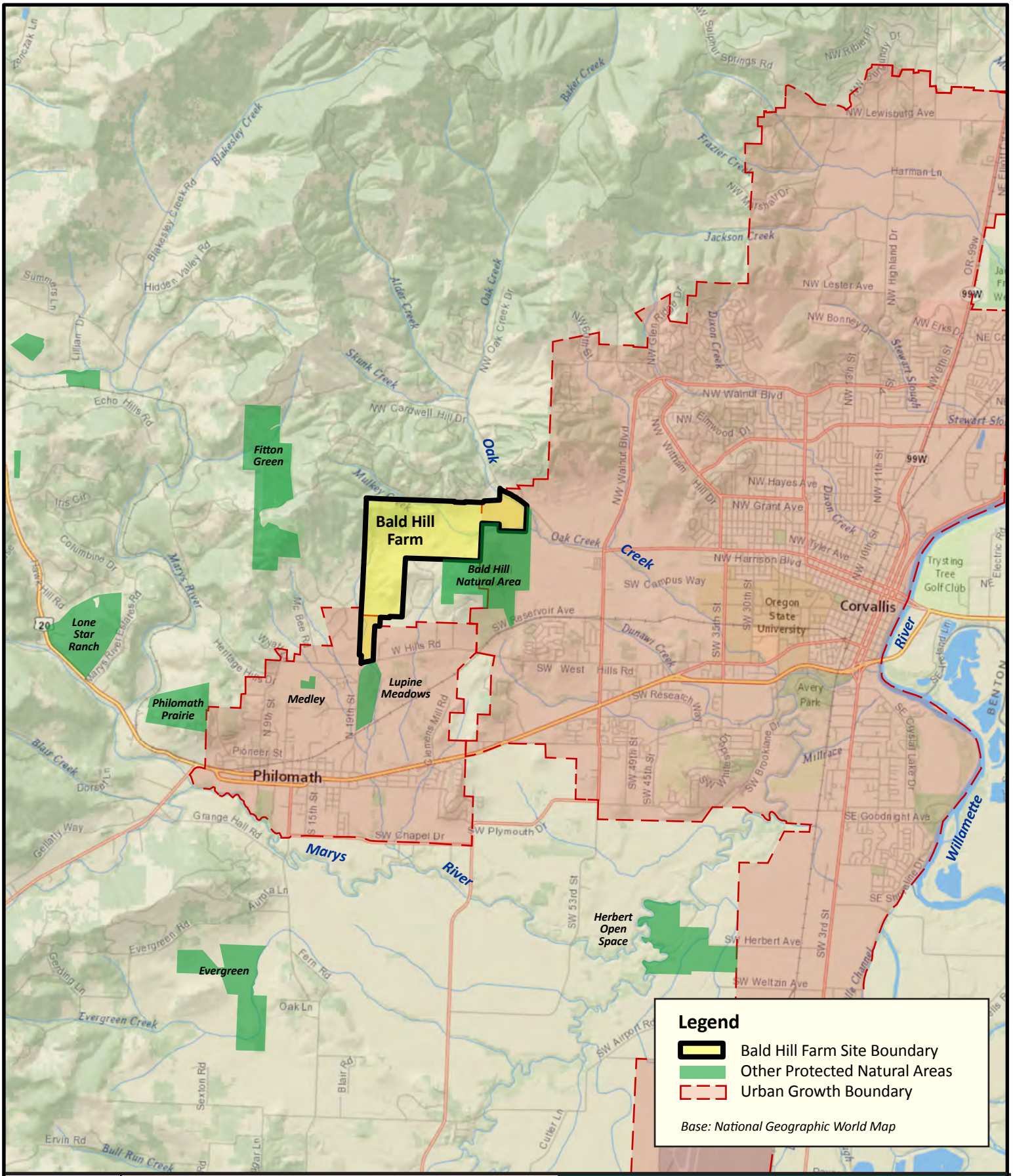
Bald Hill Farm contains a range of high value "Strategy Habitats" including upland and wetland prairie, oak woodland, oak savanna, riparian, and aquatic.

The Bald Hill Farm property is considered a priority site from a habitat conservation perspective due to its size, context, and the fact that it contains multiple high value habitat types. These habitats include significant areas of oak woodland, grassland (including upland prairie and savanna), wetlands (including wetland prairie), and riparian, all of which have been identified as "Strategy Habitats" in the *Oregon Conservation Strategy* (ODFW,

2006). Strategy Habitats are areas that were once common within the Willamette Valley, but have experienced a significant degree of loss since Euro-American settlement began in the mid-1800s and are therefore given high priority for preservation and restoration. Strategy Habitats often contain rare or declining plant and animal species. Bald Hill Farm contains populations of three federally listed plant species including Willamette daisy (*Erigeron decumbens* var. *decumbens*), Nelson's checkermallow (*Sidalcea nelsoniana*), and Kincaid's lupine (*Lupinus sulphureus* ssp. *Kincaidii*), along with a federal species of concern, the thinleaf pea (*Lathyrus holochlorus*), and a state candidate species, tall bugbane (*Actaea elata*). Additionally, several priority wildlife species listed in the Oregon Conservation Strategy or designated by OWEB as "Priority Species" are known to occur on the property including acorn woodpecker, American kestrel, chipping sparrow, Oregon vesper sparrow, American bald eagle, slender-billed nuthatch, western meadowlark, western gray squirrel, and northern red-legged frog.

Figure 1-1: ***Willamette Valley Synthesis Opportunity Areas***

Additionally, Bald Hill Farm is identified as a Priority Conservation Landscape in *Benton County, Oregon Prairie Conservation Strategy* (2010), *Benton County Habitat Conservation Plan for Prairie Species* (2011), and the *USFWS Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington* (2010). The property is also located within the USFWS (2010) recovery zones (Corvallis West) for prairie species and listed as a priority area in *Identifying Priority Willamette Oaks and Prairie Habitats* (TNC, 2011). The Oregon Conservation Strategy (ODFW, 2006) identifies Bald Hill Farm as a component of the *Corvallis Area Conservation Opportunity Area* (WV-19). Lastly, the site is also highlighted as a *Synthesis Conservation Opportunity Area*, which was a 2005 mapping effort by TNC to combine a total of six existing Willamette Valley conservation assessments into a single *Union Portfolio*, depicting locations of key habitats within the Willamette Valley. Implementing conservation and restoration activities at the landscape scale on Bald Hill Farm will afford great opportunities to address the conservation objectives described in these plans, particularly those actions that may aggregate the conservation benefits across multiple land ownerships to address a number of the conservation objectives.


Bald Hill Farm
Bald Hill Natural Area
Fitton Green
Lone Star Ranch
Philomath Prairie
Medley
Lupine Meadows
Herbert Open Space
Evergreen
Philomath
Corvallis
Oregon State University
Baker Creek
Blakesley Creek
Jackson Creek
Oak Creek
Skunk Creek
Mulkey Creek
Dixon Creek
Stewart Slough
Marys River
Willamette River
Trysting Tree Golf Club
Avery Park
Millrace
Bull Run Creek
Evergreen Creek
Blair Creek
NW Lewisburg Ave
NW Harrison Blvd
NW Walnut Blvd
NW Grant Ave
NW Hayes Ave
NW Lester Ave
NW Bonney Dr
SW Campus Way
SW Reservoir Ave
SW West Hills Rd
W Hills Rd
Pioneer St
Grange Hall Rd
SW Chapel Dr
SW Plymouth Dr
SW Herbert Ave
SW Weltzin Ave
SE Goodnight Ave
Legend
Bald Hill Farm Site Boundary
Other Protected Natural Areas
Urban Growth Boundary
Base: National Geographic World Map
0 1/2 1 Mile
Scale
= 50 Acres
N
W
E
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Map-1
Map produced by JKE
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Bald Hill Farm Management Plan
Site Context Map

1.5 The Vision of Bald Hill Farm Conservation Area

The 587-acre Bald Hill Farm Conservation Area is a strategically located natural area that will help sustain valuable native habitats and species, and the rural character of the Willamette Valley, while providing recreational and educational opportunities for the nearby community. Bald Hill Farm provides important connectivity between other important native habitats in the vicinity including Bald Hill Natural Area, Lupine Meadows, and Fitton Green Natural Area. This network of protected properties benefits wildlife and recreational users alike.

Habitats at Bald Hill Farm will be managed for an increased diversity of native plant and animal species, with special attention given to the restoration of at-risk Willamette Valley habitats such as upland and wetland prairie, oak savanna, oak woodland, and riparian forest. Prairie habitats and the savanna understory will be managed to increase the diversity of native grasses and flowers with special attention given to protecting and expanding existing populations of rare plant species including Willamette Daisy, Nelson's checkermallow, and Kincaid's lupine. Restoration of native prairie vegetation and removal of encroaching trees and shrubs will greatly improve habitat for prairie dependent species such as western meadowlark, chipping sparrow, Oregon vesper sparrow, short-eared owl, and Fender's blue butterfly. Oak woodland and savanna will be managed to limit conifer encroachment and enhance the understory, providing habitat for species such as acorn woodpecker, slender-billed nuthatch, and western gray squirrel. Livestock grazing and forest management will be used at Bald Hill Farm as a conservation tool and adaptively managed to maintain and enhance the conservation values on the property.

The proximity of Bald Hill Farm Conservation Area to residents of Corvallis and Philomath and nearby schools including Oregon State University creates unique opportunities for environmental education and research. The extensive multi-use, light-impact trail systems at Bald Hill Farm Conservation Area and adjacent public lands will further connect people in the community to natural wildlands and sustainably managed agricultural lands in the mid-Willamette Valley.

1.6 Bald Hill Farm Conservation Easements

As a stipulation of the State and Federal funding used for the acquisition of Bald Hill Farm, two separate Conservation Easements were established over different sections of the entire property in 2013 (see *Easements and Overlays Map*). These Conservation Easements describe the Conservation Values and the prohibited and permitted uses allowed on the property in perpetuity. The Conservation Easements confine the use of the property to activities that comply with the conditions of the easements and contained within this Management Plan. In addition to the easements, the management of the property must consider the grant agreements associated with the USFWS Section 6-HCP funds (see Section 1.8) and the narrative described in the grant application for these funds. Other management obligations include the conditions outlined in the Memorandum of Agreement that was contingent on receiving BPA transmission line mitigation funds for enhancement Fender's blue butterfly habitat (see Section 1.7).

The Conservation Easements are associated with detailed Baseline Inventory Documents that are incorporated by reference into the Conservation Easements. The Baseline Inventory Documentation described historical and existing land uses and land use changes, conservation values and threats to these values, physical site conditions, infrastructure, and other aspects of the property. The Baseline Inventory Documentation also serves as the baseline from which to measure changes on the property over time and ensure compliance with the Conservation Easements. Much of the content from the Baseline Inventory Documentation has been summarized and incorporated into Section 2.0 of the Management Plan.

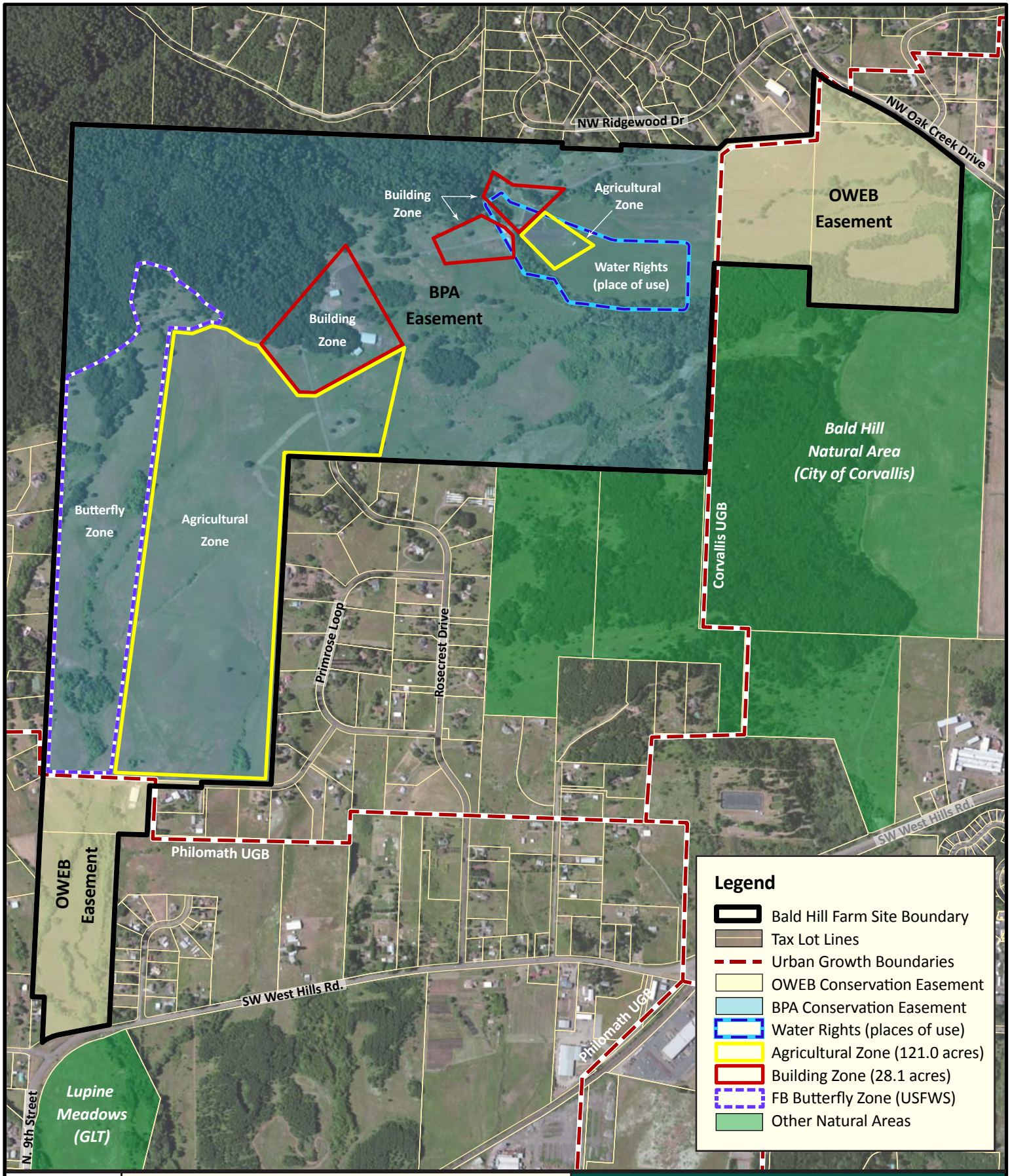
The BPA and OWEB Conservation Easements include a similar set of defined Conservation Values associated with the Bald Hill Farm property. The primary purpose of the Conservation Easements is to protect and conserve, and as appropriate, allow for the restoration or enhancement of these Conservation Values, which are listed in section 1.6.3 below. The Conservation Easement agreements are on file at the Greenbelt Land Trust office.

1.6.1 BPA Conservation Easement

On July 3, 2013, Greenbelt Land Trust (GLT) and Bonneville Power Administration (BPA) entered into an agreement by which GLT granted BPA a permanent conservation easement over the 482.83-acre central tract at the Bald Hill Farm site. A brief overview of the Conservation Easement's purpose and butterfly zone addendum are included below.

Purpose: The purpose of the BPA Conservation Easement is to protect and conserve, and as appropriate, to allow for the restoration or enhancement of the conservation values of the property. As such, the purpose of the Conservation Easement includes the prevention of any use of the property that will materially harm or materially interfere with any of the conservation values of the property. The grantor intends that the Conservation Easement will confine the use of the property to activities that comply with the Conservation Easement, including the approved Management Plan. BPA shall have the right, but not the obligation, to enforce any and all terms of the Conservation Easement. Any use of or activities on the property by the grantor shall be consistent with the purpose of the Conservation Easement. In the event that there is a conflict between the grantor's uses or activities and the purpose of Conservation Easement, the purpose of the Conservation Easement shall be construed broadly and shall prevail over any conflicting uses or activities of the Grantor.

Addendum to Conservation Easement for Butterfly Zone: The Grantor reserves the right and has the obligation to establish at least two acres as a reserve to protect and restore habitat on the Protected Property for Fender's blue butterfly and Kincaid's lupine to aid BPA in meeting its transmission line mitigation obligations under the ESA as described in the Conservation MOA between GLT, USFWS, and BPA (see Section 1.7). Once the two-acre area has been established, grantor shall record an addendum to this Conservation Easement including survey points that delineating the Butterfly Zone. All commercial, recreation and agricultural activity is prohibited within the designated Butterfly Zone.



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0 500 1,000 feet

Scale

= One Acre

N W E S

November 2014

Map-2

Map produced by JKE

Bald Hill Farm Management Plan

Easements and Overlays Map

1.6.2 OWEB Conservation Easement

On May 28, 2013, GLT and Oregon Watershed Enhancement Board (OWEB) entered into an agreement by which GLT granted OWEB a permanent conservation easement over two blocks of land located on the northeast and southwest ends of the Bald Hill Farm site, covering a total area of 105.7 acres combined. A brief overview of the Conservation Easement's key contents including Purpose, Prohibited Activities, Trespassers, and Exceptions are summarized below.

Purpose: The purpose of this Conservation Easement is to ensure that the property will continue to be used for purposes specified under Article XV, Section 4b of the Oregon Constitution, in satisfaction of the requirements of ORS 541.932(9); to protect the Conservation Values of the property; and to accomplish the goals stated in the Conservation Easement and described by GLT in its grant application (#212-101) to OWEB. The grant application, on file with OWEB, is the basis upon which OWEB awarded funding to GLT to assist with acquisition of the property. The Grantor intends that this Conservation Easement will confine the use of the property to activities that comply with the Conservation Easement and the approved Management Plan.

1.6.3 Conservation Values

The following table includes the defined Conservation Values described in the BPA and OWEB Conservation Easements for Bald Hill Farm.

Table 1-1: Conservation Values

BPA Conservation Easement – Conservation Values	OWEB Conservation Easement – Conservation Values
Conservation Values. The Protected Property, in its present state, comprises approximately 482.83 acres including native Willamette Valley upland and wetland prairie, oak savanna, oak woodland, and riparian forest and shrubland. The Parties agree that portions of the Protected Property includes other important species, habitat, and other important ecosystem attributes, such as habitat critical to the Fender's blue butterfly (*Icaricia icarioides fender*) and its host plant species the Kincaid's lupine (*Lupinus sulphureus ssp. kincaidii*), which shall be protected in the Butterfly Zone described below. The Conservation Values of the Protected Property that currently exist specifically include the following, recognizing that such Conservation Values may periodically fluctuate or trend toward long-term change, due to natural events such as wildfire, floods, interdecadal climate events, and long-term climate change, as well as human-initiated enhancement or restoration actions: 1. **Native Willamette Valley upland and wetland prairie, oak savanna, oak woodland, and riparian forest and shrubland**. The Protected Property's wet areas are biologically and structurally diverse and include a mix of shrubland and open meadows. The Protected Property contains approximately 1 mile of Mulkey Creek and unnamed tributaries to Newton Creek, the Protected Property also contains more than 100 acres of mixed-quality oak woodland and oak savanna habitats, including multi-species stands of mixed-age Oregon white oak (*Quercus garryanna*) with large legacy trees more than 100 years old, and 70-80 year-old Douglas–fir (*Pseudotsuga menziesi*) and grand fir (*Abis grandis*) trees. Riparian forest and shrubland habitats surround and buffer many of the stream reaches on the Protected Property. Existing habitats support a diverse assemblage of native species, including but not limited to acorn woodpecker (*Melanerpes formicivorus*), Oregon vesper sparrow (*Pooecetes gramineus affinis*), white-breasted nuthatch (*Sitta carolinensis aculeate*), western bluebird (*Sialia Mexicana*), western gray squirrel (*Sciurus griseus*), Kincaid's lupine (*Lupinus sulphureus ssp. kincaidii*), Willamette daisy (*Erigeron decumbens var. decumbens*), and Nelson's checkermallow (*Sidalcea nelsoniana*). The Protected Property's diverse habitat types and species, its	**Conservation Values.** The Parties agree that the Conservation Values of the Property meet the broad definition of open space values provided by ORS 308A.300. The Parties also agree that the Property, in its present state, comprises approximately 106 acres and includes important species, habitat, and other important ecosystem attributes. The Conservation Values of the Property that currently exist specifically include those listed below, recognizing that such Conservation Values may periodically fluctuate or trend toward long-term change, due to events such as wildfire, floods, species invasions, interdecadal climate events, and long-term climate change, as well as human-initiated enhancement actions. Thus, Grantor shall preserve, protect, and enhance the following Conservation Values: 1. **Native Willamette Valley upland and wetland prairie, and riparian forest and shrubland**. The Property's wet areas are biologically and structurally diverse and include a mix of shrubland and open meadows, with approximately 80 acres of the Property having been classified as wetlands. The Property contains approximately 1 mile of Oak and Mulkey Creeks and their tributaries (not including ephemeral and seasonal streams), as well as a portion of the 100-year flood zone of Oak Creek. Riparian forest and shrubland habitats surround and buffer many of the stream reaches on the Property. Existing habitats support a diverse assemblage of native species, including but not limited to acorn woodpecker (*Melanerpes formicivorus*), Oregon vesper sparrow (*Pooecetes gramineus affinis*), white-breasted nuthatch (*Sitta carolinensis aculeate*), western bluebird (*Sialia Mexicana*), spring Chinook salmon (*Oncorhnychus tshawytscha*), western gray squirrel (*Sciurus griseus*), Willamette daisy (*Erigeron decumbens var. decumbens*), and Nelson's checkermallow (*Sidalcea nelsoniana*). The Property's diverse habitat types and species, its large size, and its location near other conservation properties are Conservation Values of landscape-scale importance. 2. **Scenic Resource.** The Property's Conservation Values also include its scenic resource of native Willamette Valley upland and wetland prairie, and riparian forest and shrubland viewed by recreationists that use the trail system described in the Baseline Inventory Documentation.

large size, and its location near other conservation properties are Conservation Values of landscape-scale importance. 2. **Scenic Resource.** The Protected Property's Conservation Values also include its scenic resource of open space, native Willamette Valley upland and wetland prairie, oak savanna, oak woodland, and riparian forest and shrubland viewed by recreationists that use the trail system described in the Baseline Inventory Documentation. 3. **Contribution to landscape-scale conservation.** The Protected Property is located within a priority conservation area identified by the Oregon Conservation Strategy, adopted by the Oregon Department of Fish and Wildlife in 2006. One of the goals of the Oregon Conservation Strategy is to protect and restore native Willamette Valley upland and wetland prairie, oak savanna, oak woodland, and riparian forest and shrubland habitats and the species that rely on them. The Protected Property is also located within a priority conservation landscape identified by Benton County's Prairie Conservation Strategy (2010) and Prairie Species Habitat Conservation Plan (2010). The Protected Property is also in the Corvallis West Recovery Zone, identified by the U.S. Fish and Wildlife Service's Recovery Plan for Prairie Species of Western Oregon and Southwestern Washington (2010). 4. **Other Ecosystem Attributes and Services.** Ecosystem attributes and services, present as of the Effective Date of this Conservation Easement, include but are not limited to the fish and wildlife habitats described above, biodiversity, clean air and water, maintenance of soil productivity, and carbon sequestration.	3. **Other Ecosystem Attributes and Services.** Ecosystem attributes and services, present as of the Effective Date of this Conservation Easement, include but are not limited to the fish and wildlife habitats described above, biodiversity, clean air and water, maintenance of soil productivity, and carbon sequestration. 4. **Contribution to landscape-scale conservation**. The Property is located within a priority conservation area identified by the Oregon Conservation Strategy, adopted by the Oregon Department of Fish and Wildlife in 2006. One of the goals of the Oregon Conservation Strategy is to protect and restore native Willamette Valley upland and wetland prairie, and riparian forest and shrubland habitats and the species that rely on them. The Property is also located within a priority conservation landscape identified by Benton County's Prairie Conservation Strategy (2010) and Prairie Species Habitat Conservation Plan (2010). The Property is also in the Corvallis West Recovery Zone, identified by the U.S. Fish and Wildlife Service's Recovery Plan for Prairie Species of Western Oregon and Southwestern Washington (2010). 5. The specific existing Conservation Values of the Property are documented in an inventory of relevant features of the Property, dated May 1, 2013, on file with the Parties, and incorporated into this Conservation Easement by this reference ("***Baseline Inventory Documentation***"). The Baseline Inventory Documentation consists of reports, maps, photographs, and other documentation that provide, collectively, a mutually agreed representation of inventoried relevant features of the Property at the time of this Conservation Easement. The Parties intend the Baseline Inventory Documentation to serve as an objective informational baseline for purposes of monitoring Grantor's compliance with the terms of this Conservation Easement. The Parties have reviewed and accepted the Baseline Inventory Documentation. The Parties have signed an acknowledgement of the Baseline Inventory Documentation, attached to this Conservation Easement as **Exhibit D.**

1.7 Fender's Blue Butterfly and Kincaid's Lupine Memorandum of Agreement

During the transaction process for the acquisition of Bald Hill Farm, a MOA between GLT, BPA, and USFWS was established to ensure that a portion of the property would be managed specifically for habitat for Fender's blue butterfly and Kincaid's lupine (see Appendix A). The agreement was signed on July 3, 2013. An existing Fender's blue butterfly population is located on the adjacent Lupine Meadows site to the south and habitat for the butterfly is available on other nearby natural areas, making Bald Hill Farm a viable site for future expansion of these populations. The MOA included a map that defined a 70-acre area suitable for implementing restorations actions to benefit Fenders blue butterfly (see *Easements and Overlays Map*). Under the MOA, GLT agreed to designate a minimum of two contiguous acres to manage and restore as a Butterfly. The MOA required that the parties discuss an appropriate location for a Butterfly Zone by July 3rd, 2014. The MOA also established a stewardship fund of $42,000 to ensure that offsetting measures, identified in the *BPA Pole*

Fender's blue butterfly on Kincaid's lupine (Cheryl Schultz)

Replacement Biological Opinion's (2009) mitigation responsibilities for Fender's blue butterfly and Kincaid's lupine, are adequately implemented on the site. Part of the stewardship funding will be used to initiate restoration actions to establish a mix of nectar species, including Kincaid's lupine after the restoration work is completed, the remaining funds will be used to manage, maintain, and monitor the restored acreage for at least 10 years.

Under the MOA, GLT is required to follow the guidance in the *Willamette Wildlife MOA* with regard to developing a Management Plan for Bald Hill Farm, conducting monitoring, and providing reports. The section in the Management Plan related to the MOA requirements will address the following:

- the monitoring and reporting requirements in section 1.7.5 of the *BPA Pole Replacement Biological Opinion* (2009);
- the documentation of any habitat restoration actions under the guidance in section 1.7 of the *BPA Pole Replacement Biological Opinion*; and
- the reporting needed to meet the USFWS requirements in the *BPA Pole Replacement Biological Opinion* in section 8, Reasonable and Prudent Measures, and section 1.7.5 concerning the extent of restoration and weed management activities, if any.

1.8 USFWS Cooperative Endangered Species Conservation Grant Program

The U.S. Fish and Wildlife Service (USFWS), through its Cooperative Endangered Species Conservation Fund recovery Land Acquisition Grant Program, awarded a grant to Oregon Parks and Recreation Department (OPRD), which in turn awarded a sub-grant to GLT to assist in the purchase of two blocks of land located on the northeast and southwest ends of the Bald Hill Farm site, covering a total area of 105.7 acres combined. This is the same blocks of land for which OWEB provided funding, and was granted a conservation easement (see Section 1.6.2). As a condition of the grant award a Notice of Federal Participation (NOFP) was recorded in Benton County on May 28, 2013 (Appendix B).

According to the NOFP, "the property was acquired for the approved purpose of protecting in perpetuity habitats critical to the stability and recovery of Fender's blue butterfly (*Plebejus icarioides fenderi*) and its host plant Kincaid's lupine (*Lupinus sulphureus* ssp*. kincaidii*), species listed as Endangered and Threatened, respectively, under the Federal Endangered Species Act; the federally listed Willamette daisy (*Erigeron decumbens* var. *decumbens*; Endangered), and Nelson's checkermallow (*Sidalcea nelsoniana*; Threatened); the upland prairie and riparian ecosystems upon which these and other rare species depend; and other natural heritage resources."

Under the NOFP all terms and conditions of the grant and sub-grant from USFWS and OPRD must followed. Specific terms and conditions of relevance for management include:

- GLT shall manage and use the property in perpetuity pursuant to the terms of the grant, including the obligation to ensure the permanent conservation of the property, including the conservation of its lands and waters.
- Timber revenue produced from land acquired with USFWS funding must be used for management of the property as approved in the management plan and may not be diverted to other uses.
- GLT shall not convey or encumber the land acquired with USFWS funding without prior written consent of OPRD and USFWS.
- No qualified handicapped person, shall on the basis of handicap, be excluded from participation in, be denied the benefit of, or otherwise be subjected to discrimination under any program or activity on the property, pursuant to 43 CFR 17.203.

1.9 Summary of Reporting Requirements

The following table highlights reporting and monitoring requirements of the various agreements related to Bald Hill Farm acquisition funding. See specific agreements for details.

Table 1-2: Reporting Requirements

Agreement	Reporting Requirements	Key Dates
BPA Conservation Easement (July 3, 2013)	Development of Management Plan. Annual reporting submitted that describes changes in real property interests; leases; uses or activities undertaken, in progress, or planned; violations or threatened violations of the Conservation Easement; and enforcement action taken.	GLT will produce a Management Plan for the site. GLT will provide the initial annual report in the fifteenth month after the closing date of the acquisition of the property (October 2014) and annually from that date. Reports will be submitted by October 31 each year.
OWEB Conservation Easement (May 28, 2013)	Development of Management Plan. Summary report produced every 5 years describing use and management of the property and updates on how the GLT's actions are enhancing the site's Conservation Values.	A draft Management Plan is due November 28, 2014 and a final plan due by May 28, 2015. As specified in the *Management Plan Guidance* (OWEB, 2013), GLT will review the Management Plan at a minimum of once every 5 years that takes into account monitoring, maintenance, and adaptive management information. The plan should be updated if the information indicates that new or modified management actions are necessary to achieve conservation goals. Any plan updates should be submitted to OWEB for approval. The five year review cycle will be coordinated with the OWEB Grant Agreement reporting dates listed below.
OWEB Watershed Acquisition Grant Agreement 212-101 (May 20, 2013)	Brief summary to OWEB's project manager regarding use and management, protection of conservation values, use consistent with the agreement.	Reports due by May 15, 2018; May 15, 2023; May 15, 2028; and May 15, 2033.
Fender's Blue Butterfly and Kincaid's Lupine MOA	FBB related section must be included within Management Plan. GLT shall prepare annual reports that include the following: • any habitat quality monitoring or evaluation analyses undertaken or in progress; • any management or restoration activities undertaken or in progress; • any pictures from established monitoring photo points; • other data collected during monitoring, including GIS data; and • threats to the conservation values. • Financial accounting and stewardship of the Butterfly Zone	Consultation with signing partners on location of two-acre butterfly habitat restoration zone by July 3, 2014. Annual reporting during restoration and biennial reporting for 10 years following restoration. Initial report due in October 2014 and in October of subsequent years. Annual report for 10 years after completion of restoration.

1.10 Related Studies, Reports, Inventories, and Plans

Significant study, planning, and inventory have occurred either at Bald Hill Farm and vicinity or at the state and federal level. These resources have been incorporated into the Management Plan or cited as applicable.

Bald Hill Farm Specific Reports, Inventories, and Agreements:

- *Grazing Plan* (November 2014) – See Appendix H.
- *Forest Stewardship Plan for Bald Hill Farm* (June 2014) – See Appendix G.
- *Fender's Blue Butterfly Memorandum of Agreement* (July 3, 2013) – See Appendix A.

- *Baseline Inventory Documentation & Acknowledgement of Property Condition of the Bald Hill Farm - Conservation Easement - BPA funded parcels* (Greenbelt Land Trust, June 11, 2013).
- *Deed of Conservation Easement for Bald Hill Farm - between GLT and Bonneville Power Administration* (July 3, 2013) – on file at GLT
- *Bald Hill Farm Conservation Easement – between GLT and Oregon Watershed Enhancement Board* (May 28, 2013) – on file at GLT
- *Bald Hill Farm Riparian, Wetlands, and Grazing Assessment* (Carex Working Group, April 2013) – See Appendix C for maps.
- *Baseline Inventory Documentation & Acknowledgement of Property Condition of the Bald Hill Farm - Conservation Easement - OWEB funded parcels* (Greenbelt Land Trust, May 1, 2013).
- *Recorded Notice of Federal Participation for Section 6-HCP Funds* (May 28, 2013) – See Appendix B.
- *Self Contained Appraisal Report of Bald Hill Farm* (Tyler Woods Appraisal Services, LLC, December 3, 2012).
- *Botanical Survey and Rare Plant Assessment at Bald Hill Farm* (Institute for Applied Ecology, July 2010) – See Appendix D.
- *Botanical Survey of Forested Portions of Bald Hill Fa*rm (Institute for Applied Ecology, October 2010). – See Appendix E.
- *Martin Forest Stewardship Management Plan* (ITS Management, Inc., November 1998).

Other Related Studies, Reports and Plans:

- *Corvallis Parks & Recreation Master* Plan (Draft, August 2013)
- *Historical Vegetation of the Willamette Valley, Oregon, circa 1850*. (Christy, J. A., and E. R. Alverson, 2011, published in Northwest Science 85:93-107).
- *Benton County, Oregon Prairie Conservation Strategy* (Benton County and Institute for Applied Ecology, January 2011)
- *Benton County Prairie Species Habitat Conservation Plan Strategy* (Benton County and Institute for Applied Ecology, 2010)
- *Management Plan for Lupine Meadows* (GLT and Institute for Applied Ecology, May 2008)
- *Oregon Conservation Strategy* (Oregon Department of Fish & Wildlife, 2006)
- *Benton County Natural Areas & Parks Department Trail System Plan* (March 2003)
- *Soil Survey of Benton County, Oregon* (NRCS, 2004)
- *Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington* (USFWS, 2010).
- *Identifying Priority Willamette Oaks and Prairie Habitats* (TNC, 2011)
- *BPA Pole Replacement Biological Opinion* (USFWS, August 18, 2009)
- *Blue Flower of Tribal Legend: Sky Blue Petals Resemble Lakes of Fine Clear Water*. (Sultany, Molly L., Susan R. Kephat, and H. Peter Eilers. 2007. Kalmiopsis Volume 14, 2007).
- *Willamette Basin Restoration Priorities, Watershed Summaries* (OWEB, 2005)
- *OWEB Ecological Priorities for Land Acquisitions by Basin* (Adopted by OWEB September 14, 2004)
- *Marys River Watershed Preliminary Assessment* (Marys River Watershed Council, 1999)
- *The vegetation of the Willamette Valley* (Johannessen, C. L., W. A. Davenport, A. Millet, and S. McWilliams. 1971 published in the *Annals of the Association of American Geographers* 61:286-302)
- *Geomorphology and Soils Willamette Valley, Oregon* (Balster and Parsons, 1968)

Section 2: Site History and Existing Condition

2.1 Historical Context

2.1.1 Native American Influences and Cultural Significance

Historical accounts indicate that, prior to Euro-American settlement, much of the Willamette Valley was prairie or savannas, dominated by native grasses and forbs with widely scattered trees on the hill slopes, and broad corridors of riparian forest along the rivers. Humans have occupied the Willamette Valley for an estimated 10,000 years. Prior to Euro-American habitation, most native inhabitants of the central Willamette Valley belonged to the Kalapuyan family. The native Kalapuya people likely managed the prairie and savanna systems by initiating frequent seasonal burning of understory vegetation to improve conditions for hunting, gathering, and possibly travel (Johannessen, 1971). These frequent fires are believed to be the major disturbance factor that helped maintain savanna and prairie conditions by limiting the invasion of less fire resistant conifer species such as Douglas-fir.

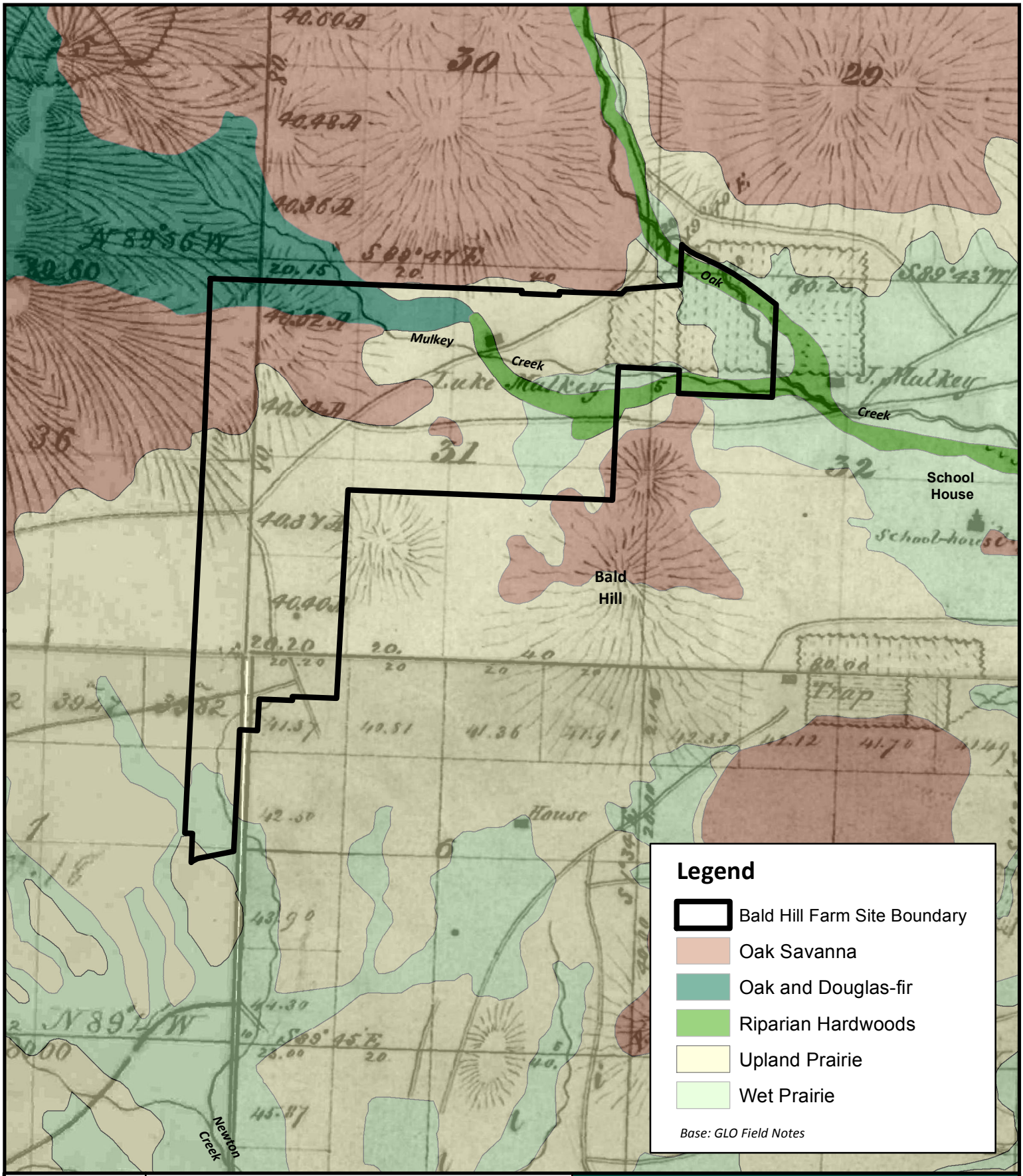
The Kalapuya people used at least 50 species of plants found in prairies and savanna systems for food and fiber production use. Important food plants included bulbs of camas (*Camassia* spp.), brodiaea (*Brodiaea* spp.), and checker lily (*Fritillaria affinis*); roots of yampah (*Perideridia* spp.) and biscuitroot (*Lomatium* spp.); and seeds of tarweed (*Madia* spp.) and balsamroot (*Balsamorhiza* spp.) (Christy et al. 2011). Evidence of this wide-spread use of these habitats for food production can be found in the remnants of camas ovens located throughout the Willamette Valley. The oldest archeological evidence of camas ovens and charred bulbs in the Willamette Valley date back 7,750 years (Sultany et al., 2007).

As Euro-American settlers moved into the valley beginning in the mid-1800s and began suppressing fires, the savanna and prairie dominated landscapes were degraded as woody species encroached into these areas or as land was converted to agricultural and urban uses. Countless generations of Native Americans lived throughout the Willamette Valley including the area of Bald Hill Farm, but by the mid-1800s, their population had been decimated by disease and the remnant members of the tribes were displaced to reservations. As a result, there is little recorded information of how humans interacted directly with the site prior to the arrival of the settlers in the 1840s. In 1855 the Marys River Band of the Kalapuya, along with several tribes from the Willamette Valley, signed the 1855 Dayton Treaty, ceding territory from the Columbia to the Cascades.

2.1.2 Historical Vegetation Patterns

The General Land Office (GLO) survey notes of the 1850s provide the best record of the pre-settlement vegetation patterns for the Willamette Basin. While surveying the Valley, notes of surrounding vegetation communities and other significant features present at the time were recorded at most survey points. These detailed notes were translated into digital map form in the 1990s. At the time of the GLO surveys, the native plant communities were presumably grazed to some extent by free-ranging livestock brought in by early settlers, but otherwise largely undisturbed through other anthropogenic activities such as drainage, tilling, or urban development (Christy et al. 2011).

The GLO map data indicated that the Bald Hill Farm area in the mid-1800s was dominated by open prairies, with areas of oak savanna located on the south facing slopes along the northern edge of the site. The upland northwest corner of the property was described as mostly oak and Douglas-fir dominated woodlands and the lowlands as riparian vegetation primarily along Mulkey Creek and Oak Creeks. Based on the dominant prairie vegetation described in the surveys, most of the site was upland prairie with some smaller areas of wetland prairie located in the lower elevations along Mulkey Creek and the Newton Creek drainage (See *Historical Vegetation Map*).



greenbelt land trust

0 250500 1,000 1,500 2,000 Feet

Scale

Source: Oregon Biodiversity Information Center as derived from the 1850-1917 General Land Office (GLO) survey notes.

N W E S

February 2014

Map-3

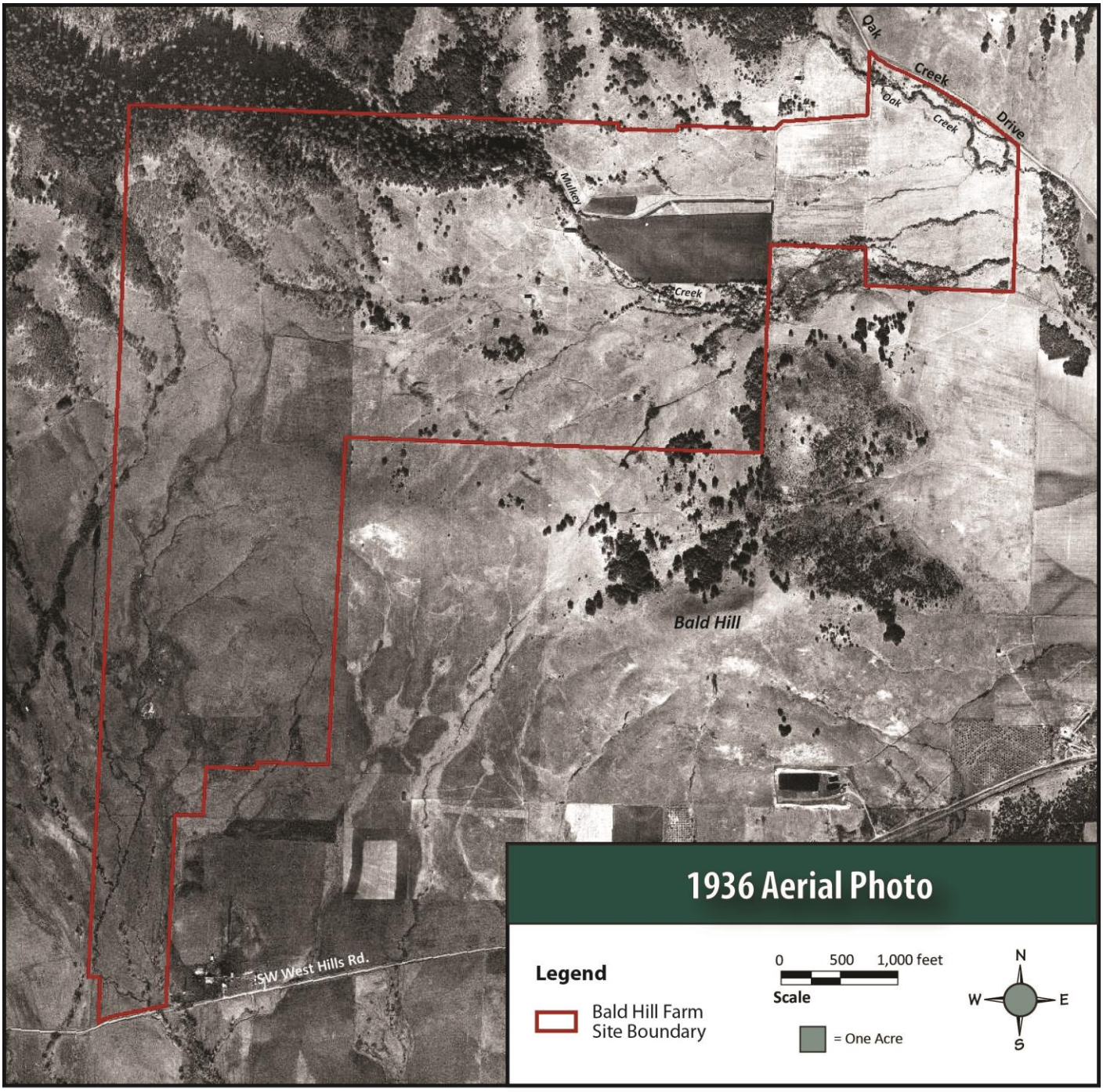
Map produced by JKE

Bald Hill Farm Management Plan

Historical Vegetation Map (Ca. 1850s)

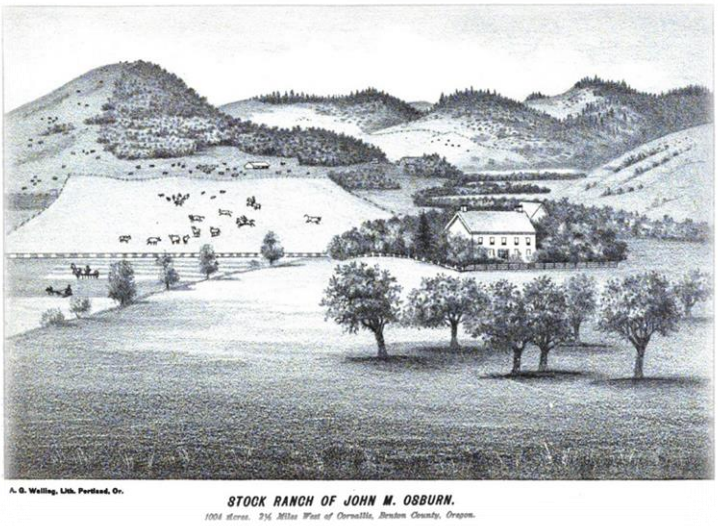
The earliest available aerial photo of the site was taken in 1936 and shows the majority of the property in active agricultural use, mainly as pasture, with one area near the northeast corner of the site in cultivation for an unknown crop. Many of the site's waterways are evident in this aerial photo and several are lined with narrow bands of riparian vegetation. The northwest corner of the site along Mulkey Ridge is covered in woodland and conifer forest, with scattered trees present on the slopes below.

Figure 2-1: 1936 Aerial Photo



2.1.3 Establishment and History of Bald Hill Farm

During the mid-1800s, Euro-American settlers brought dramatic land-use changes to the Willamette Valley including the area in and around Corvallis. In 1845, brothers Luke and Johnson Mulkey claimed a combined total of 1,281 acres under the Donation Land Claim Act including the area which is today the Bald Hill Farm site and the City's Bald Hill Natural Area. Johnson Mulkey was the first western settler to winter in what became Benton County. His family apparently had the first house with running water as they built part of the structure over Oak Creek. Around 1847, Luke Mulkey built a homestead adjacent to Mulkey Creek near the location of the current farmhouse. On what is now Bald Hill Farm, the Mulkeys raised sheep and cattle, while harvesting the fields for hay. The Mulkeys built one of the first school houses on their land claim near what is today the Benton County Fairgrounds, rather than sending their children on the longer journey to town. Many of the early descendants of Corvallis have recorded their fond recollections of the 'Old Mulkey Schoolhouse' to historians. According to the 1998 *Martin Forest Stewardship Plan* (ITS Management, Inc.), logging conducted in the 1920s may account for limited tree cover in some areas of the site. However, logging in the uplands left intact numerous large Douglas-fir and Grand fir which likely contributed to the expansion of conifer cover in areas once dominated by prairie and savannas. Older Oregon white oaks (> 100 years old) on south-facing slopes were also left standing, and many still remain today. The Martin family purchased the property in 1991 and 1992 and primarily used the land to raise livestock and produce hay until the time of GLT acquisition in 2013. In 1998-99, 40 forested acres in the northwest portion of the site was thinned with a focus on decreasing density of conifer stands and opening up canopies which overtopped oaks. While in their ownership, the Martin family worked with Benton County to develop the existing public trail network on the site.



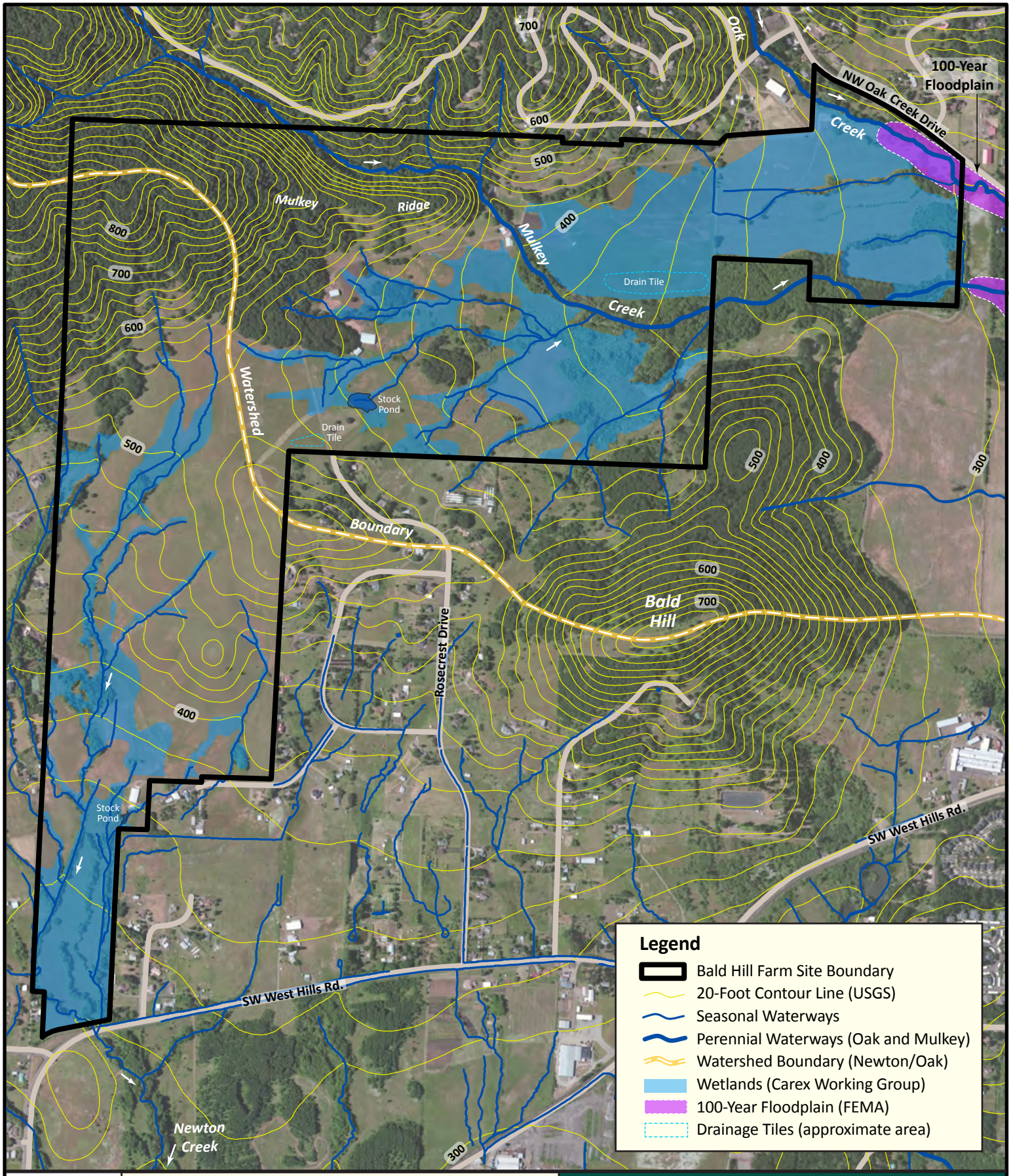
Line drawing of the Bald Hill area (source: A.J. Walling, Printer, Lithographer, Etc. 1885)

2.2 Landform

2.2.1 Topography

Bald Hill Farm straddles the divide between two sub-basins of the Marys River watershed. The high point of the site is located along the ridgetop at the northwest corner of the property, referred to as *Mulkey Ridge*, which reaches an elevation of approximately 880 feet. The site drops away from this ridge generally toward the south with a slope of between 20 and 30 percent, with the slope gradually lessoning toward the center of the site and eventually becoming nearly flat on the south and east ends of the site. The low point at Bald Hill Farm is near the confluence of Mulkey Creek and Oak Creek at an elevation of approximately 300 feet.

The slopes increase on the northern portion of Bald Hill Farm – photo looking northwest toward Marys Peak (Raptorviews)



greenbelt land trust

0 500 1,000 feet

Scale

= One Acre

N
W E
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November 2014

Map-4

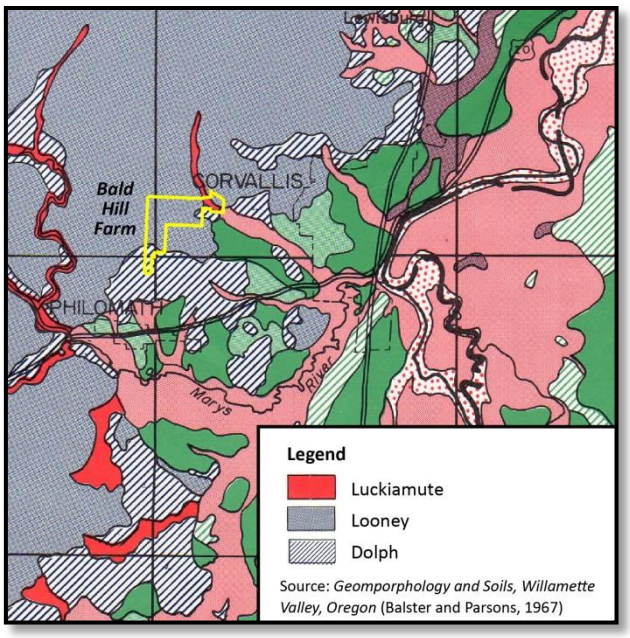
Map produced by JKE

Bald Hill Farm Management Plan

Topography and Surface Hydrology Map

2.2.2 Geomorphic Surfaces

Geomorphic classifications are coarsely mapped units describing the process and timeframe under which landscape surfaces have developed. The geomorphic surfaces of the Willamette Valley, which were first mapped by Balser and Parsons in 1968, indicates that the majority of the Bald Hill Farm site falls within the Looney unit. This geomorphic unit includes the complex group of valleys and intervening ridges that compose the dissected terrain immediately above the Willamette Valley floor. The lowermost elevations of the site are mapped as having areas of Dolph and Luckiamute geomorphic surfaces. These are typically found in transitional areas between the dissected Looney surfaces and the flat Willamette Valley floor and were formed from fine stream deposits settling into flatter terrain (See *Geomporphic Surfaces Map*).



Map 5: Geomorphic Surfaces

2.2.3 Soils

Based on NRCS soils data, the majority of the site is mapped as having a soil classification of Dixonville-Gellatly-Wiltham complex, which covers much of the central portion of the property. This soil types is classified as non-hydric to partially-hydric, which means it can sustain some areas of wetland. Price-MacDunn-Ritner complex is located on the upper slopes of the site's northwest corner on and around Mulkey Ridge and is very well drained. Bashaw clay soils, which are generally associated with wetland conditions, are located on the lower flatter areas of the site in the northeast corner and southern edge.

Table 2-1: Soil Units

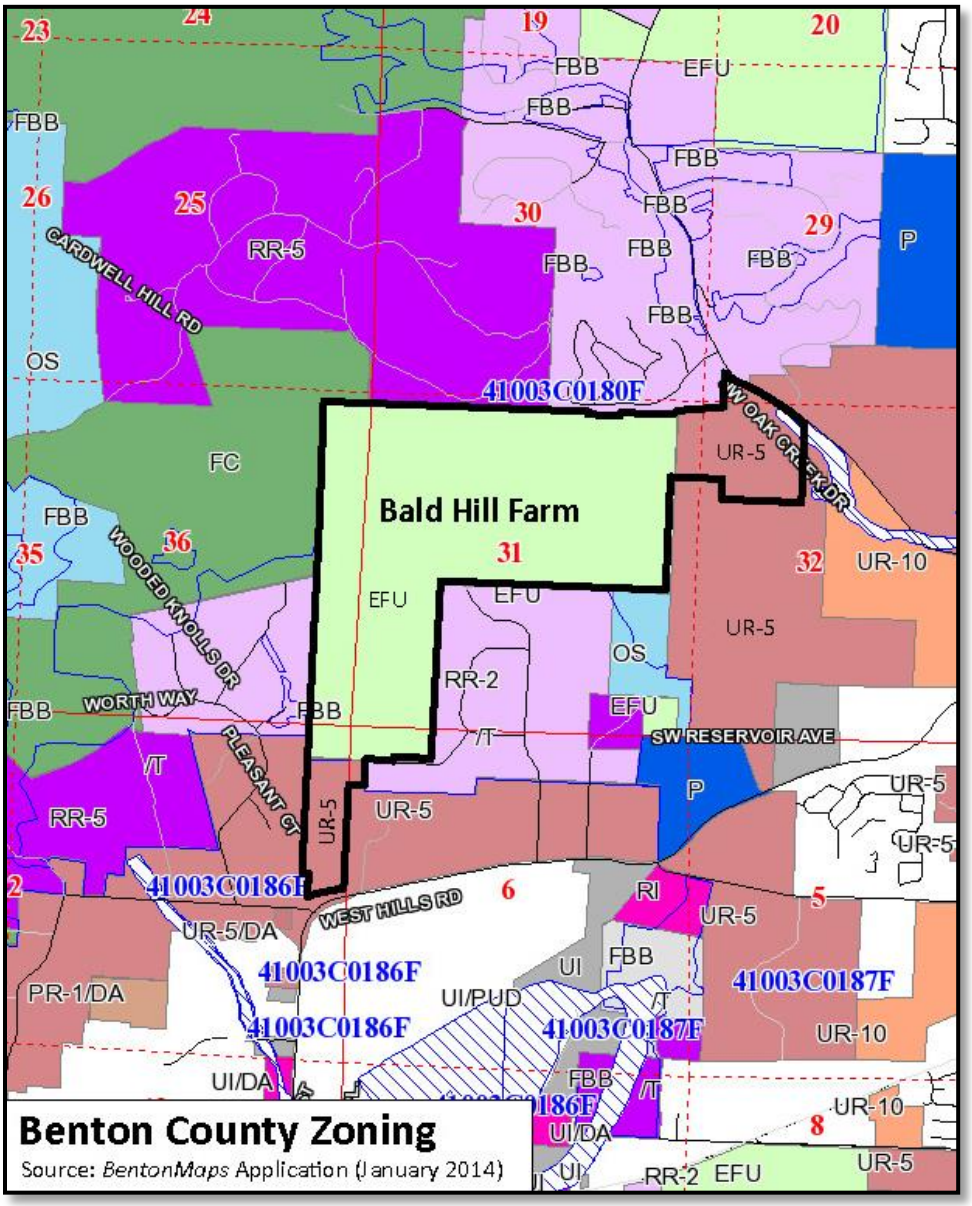
Soil Map Unit	Slope	Acres	Description
of Dixonville-Gellatly-Wiltham complex	2 to 12 percent	418	Well drained and somewhat poorly drained, moderately deep and very deep soils that formed in clayey colluvium and residuum derived from basalt. Classified as a non-hydric to partially hydric soil type.
Bashaw Clay, non-flooded	0 to 3 percent	139	Poorly drained with seasonally high water table derived from basalt. Classified as a hydric (wetland) soil type.
Price-MacDunn-Ritner complex	30 to 60 percent	31	Well drained silty clay loam found on side slopes, derived from basalt. Classified as a non-hydric soil type.

Source: NRCS

2.3 Zoning and Adjacent Uses

Bald Hill Farm is situated in close proximity to the cities of Corvallis and Philomath with the western edge of the Corvallis Urban Growth Boundary (UGB) and northern edge of the Philomath UGB crossing the site (*see Easements and Overlays Map*). Adjacent land uses currently include a mix of land that is permanently protected and managed for conservation and recreational values (Bald Hill Natural Area, Lupine Meadows, and Fitton Green), medium to large lot residential uses, and agricultural and forest uses.

The Benton County zoning designations for Bald Hill Farm property is Exclusive Farm Use (EFU) for the area contained within the BPA conservation easement and (UR-5) for the areas contained within the OWEB conservation easement. The OWEB conservation easement areas fall within the Corvallis and Philomath UGBs and the BPA conservation easement area is completely outside of both UGBs. Adjacent lands are zoned with a mix of Urban Residential (UR-5), Rural Residential (RR-2 and RR-5), Forest Conservation (FC), and Open Space (OS) for a portion of Bald Hill Natural Area (see *Benton County Zoning Map*, next page).



Map 6

2.4 Hydrology and Water Use

2.4.1 Creeks and Ponds

Bald Hill Farm contains two small sub-basins of the Marys River, which ultimately flow to the Willamette River approximately five miles to the west. A ridgeline that runs from the upper northwest corner of the property toward the top of nearby Bald Hill separates the site roughly in half with the eastern half of the site draining into Oak Creek and the western half of the site draining toward Newton Creek. The site contains two perennial creeks including a short segment of the deeply incised Oak Creek, which runs along the eastern edge of the site parallel to Oak Creek Drive, and Mulkey Creek, which drains the upper reaches of the site and flows into Oak Creek.

ODF classifies Oak Creek as a medium fish-bearing stream. Along most of its reach across the property, it contains no effective floodplain due to incision. ODF classifies Mulkey Creek a medium stream below the footbridges, and small above, with both reaches classified as fish-bearing. In contrast to Oak Creek, Mulkey Creek has a braided channel that interacts with its floodplain and associated wetlands. In addition to Mulkey Creek and Oak Creek, an extensive network of intermittent creeks cross the site, flowing into Mulkey Creek and Oak Creek and forming the headwaters

of Newton Creek. Most of the creeks have not been channelized, straightened, or significantly modified, with the exception of culvert crossings at roads. Incision and down-cutting is evident on some of the smaller waterways on the south end of the site.

Two small artificial stock ponds are located on the site in proximity to the barns. There are two relatively small areas on the site known to contain sub-surface drainage tiles and their exact effect on surface hydrology is unknown, but likely minimal. The only portion of the site within the 100-year floodplain, as mapped by the Federal Emergency Management Agency, is an area of approximately 3.5 acres located along Oak Creek (see *Topography and Hydrology Map*).

Seasonal tributary to Newton Creek near southern end of the site

2.4.2 Wetlands

A wetland survey conducted in 2012 by Dick Brainerd of the Carex Working Group mapped wetlands on the property. This survey identified approximately 238 acres of wetland as evidenced by the presence of wetland vegetation, hydric soils, and wetland hydrology. Several Cowardin classes of palustrine wetlands were mapped, including forested, emergent, shrub-scrub, and emergent/scrub shrub. Most of the wetland areas are located in the flatter bottomland areas of the site and around seep zones that occur just above the toe of the steeper slopes. These seasonal wetlands are fed both by rainfall and seeps, with a perched water table situated on heavy clay soils (see *Topography and Hydrology Map*). The mapped extent and classification of these wetlands is included in Appendix C.

Wetland prairie on the flat eastern end of the site

2.4.3 Water Rights, Wells, and Irrigation

There is one water right (certificate number 2861) for the property, which is associated with Mulkey Creek, established in 1920, with a priority date of August 30, 1916. The purpose is for domestic use and irrigation of 17 acres of land (see *Easements and Overlays Map*). Water use is not to exceed 0.22 cfs and for irrigation is limited to 0.0125 cfs per acre irrigated. Under these water rights, portable pumps and hoses were used by the previous owner to seasonally water livestock and a garden. In order to retain the water right, it must be used at least once every five years.

Two wells are located on the property including a well of unknown depth located in the yard north of the house, which is used to supply water for the residence and the nearby barns, and a 505-foot deep well (L34767) located next to the pump house by the shop. A new submersible pump was installed in the shop well in January 2013 at a depth of

approximately 200 feet. The flow is estimated to be 5 gallons per minute. This well connects to the pump house and then to the shop, a stock tank approximately 600 feet west, and to a stub that was installed for a potential homes site just west of the shop.

There are several springs on the property that have been developed to provide water for livestock. Spring water is collected and gravity fed to stock tanks located at different areas of the site. It should be noted that Oregon Water Law allows use of water from small natural springs, as long as it does not flow off the property where the spring originates.

2.5 Current Land Cover and Use

Bald Hill Farm contains a diverse mix of land cover types, with the most common being grassland or prairie. Almost all of this grassland area has been in agricultural use for grazing and haying. Grazing also occurs on approximately half of the site's oak woodland area and two thirds of the site's riparian area. Grazing does not currently occur in any of the areas classified as savanna or oak/conifer woodland. Infrastructure including roads, graveled areas, and structures covers about 2 percent of the site. GLT is currently leasing the property for grazing through a temporary lease agreement and will be evaluating future levels and extent of grazing. A currently unoccupied residence is located on the northeast portion of the site and is being upgraded by GLT. The northeast portion of the site is also used for public recreation and serves as a scenic resource for trail users. Approximately 420 acres of the site (71 percent) was in agricultural use at the time of GLT acquisition including all grassland (upland and wetland prairie) areas and shrub habitats and the majority of the riparian habitats. The existing land cover and distribution of agricultural uses are described in Table 2-2.

Table 2-2: Existing Land Cover

Existing Land Cover	Approximate Acreage	% of Total Acreage
Infrastructure	9.6	1.6
Oak Savanna	44.2	7.5
Oak Woodland	28.0	4.8
Forest (conifer, oak-fir, fir-oak, conifer-hardwood)	97.7	16.6
Riparian Forest*	56.5	9.6
Riparian Shrub	7.9	1.3
Shrub	24.0	4.1
Grassland (upland and wetland prairie)	319.9	54.3
Total	**587.8**	**99.8**

** The Riparian category includes approximately 7,300 lineal feet of perennial waterway of Mulkey Creek and Oak Creek (aquatic habitat).*

2.6 Vegetation

2.6.1 Existing Vegetation Communities

The Bald Hill Farm site contains a diverse mosaic of vegetation communities, which can be generalized under the seven general categories listed below. The vegetation categories were derived from a number of sources including: *The Nature Conservancy's Willamette Valley-Puget Trough-Georgia Basin Ecoregional Assessment* (TNC, 2004), and the *Oregon Conservation Strategy* (ODFW, 2006), and the *Bald Hill Farm Baseline Inventory Documentation* reports (GLT, 2013). A range of on-the-ground conditions exist within each of these vegetation communities, which are detailed in several botanical surveys conducted by the Institute for Applied Ecology between 2007 and 2010 and

during the 2013 *Riparian, Wetlands, and Grazing Assessment* conducted by the Carex Working Group. It should be noted that a transitional gradient exists between each of these vegetation communities and the mapping for these areas is approximate. The location of these vegetation communities is shown on the *Existing Vegetation Communities Map*.

Upland Prairie: Covering approximately 173.4 acres of the site, the upland prairie (grassland) occurs on well drained soils and generally contains a tree canopy cover of less than 5%. Virtually all of the upland prairie areas have been used for grazing and haying for an extended period and are dominated by non-native pasture grasses including creeping bentgrass (*Agrostis stolonifera*), dogstail grass (*Cynosurus cristatus*), Kentucky bluegrass (*Poa pratensis*), soft brome (*Bromus hordeaceus*) and tall fescue (*Schedonorus arundinaceus*). Scattered native grasses and forbs are present in some areas. Small patches of woody vegetation, including hawthorn and oak, are established in some areas.

Wetland Prairie: Covering approximately 146.5 acres of the site, the wetland prairies occur on poorly drained hydric soils on the flatter areas of the site and around seep zones located on toe-slopes. Wetland prairies generally contain a tree canopy cover of less than 5%, with scattered woody vegetation present in some areas, especially along swales. Virtually all of the wet prairie areas have been used for grazing and haying over an extended period and are dominated by non-native pasture grasses including meadow foxtail (*Alopecurus pratensis*), tall fescue (*Schedonorus arundinaceus*), crested dogstail grass (*Cynosurus cristatus*), and common velvetgrass (*Holcus lanatus*). Some native composition is present including tufted hairgrass (*Deschampsia cespitosa*) and soft rush (*Juncus effuses*). Many of the wetter areas have been heavily impacted by grazing with evident soil trampling and pugging. Small drainage ditches have been excavated in areas in an effort to remove water. Woody vegetation including Oregon ash (*Fraxinus latifolia*) is also found in some of the wetland prairie areas.

Oak Savanna: Oak savanna, which by definition has a tree canopy ranging from 6 to 30 percent cover, is present on approximately 44.2 acres of the lower south facing slopes of the site. These areas contain widely scattered Oregon oak including many large older trees with wide spreading canopies. The savanna understory consists mainly of grasses and forbs, similar in composition to the site's upland prairie areas, with non-native pasture grasses dominating.

Oak Woodland: Oak woodland is present on approximately 28.0 acres of the site in several islands. Oak woodland is found primarily in the center of the site, downslope from the savanna and immediately adjacent to the Bald Hill Natural Area. Oregon white oak is the dominant tree species in these areas, with Oregon ash (*Fraxinus latifolia*) commonly intermixed along the stand edges and in wetter areas. Douglas-fir has not become established in these areas. Most of the oak woodland areas have been heavily impacted by heavy livestock use, as evidenced by pugging, compacted soil, and denuded vegetation. In addition to native understory species, invasive species such as and oneseed hawthorn (*Crataegus mongyna*) and Himalayan blackberry (*Rubus armeniacus*) are well established in some areas. False brome is largely absent from the oak woodlands.

Riparian Forest and Riparian Shrub: These forested or partially forested areas line many of the waterways on the site including wide bands along Mulkey Creek and Oak Creek. This vegetation community covers a total area of approximately 64.4 acres. Dominant tree species in the riparian areas include Oregon white oak (*Quercus garryana*), Oregon ash (*Fraxinus latifolia*), Douglas-fir, bigleaf maple (*Acer macrophyllum*), Suksdorf's hawthorn (*Crataegus suksdorfii*), and white alder (*Alnus rhombifolia*). The understory is very weedy with dense Himalayan blackberry (*Rubus armeniacus*), false brome (*Brachypodium sylvaticum*), domestic pear (*Pyrus communis*), and oneseed hawthorn (*Crataegus monogyna*). Beaver activity has been noted along the lower reaches of Mulkey Creek.

Freshwater Aquatic: The riparian forest described above contains approximately 7,300 lineal feet of in-stream freshwater aquatic habitat within Mulkey Creek and Oak Creek, which are both perennial as the flow through the site. No formal surveys have yet been conducted for aquatic vegetation, fish, or wildlife on the Bald Hill Farm segments of these creeks. See section 2.7.2 for description of likely fish and wildlife species present.

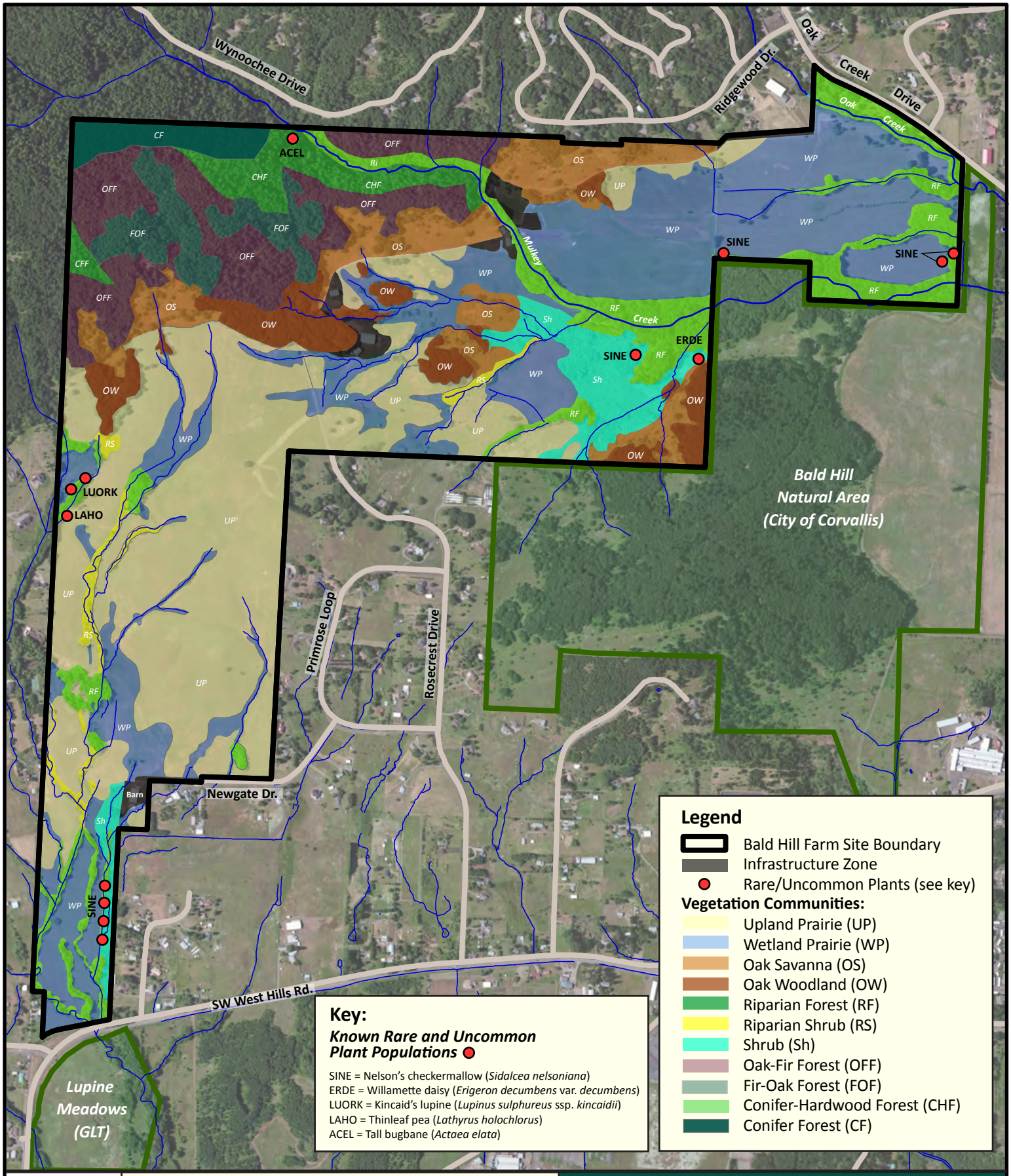
Shrub: This is categorized as a transitional habitat where woody vegetation has become established within pastures or prairie and is found on approximately 24.0 acres of the site, mainly to the south of Mulkey Creek and in the southern panhandle area along the east property boundary. Oregon ash (*Fraxinus latifolia*), buckthorn (*Rhamnus purshiana*), hawthorn (*Crataegus* spp.), Himalayan blackberry (*Rubus armeniacus*), Rose (*Rosa* spp.), and domestic pear (*Pyrus communis*) are common woody species. Mostly non-native pasture grasses grow in the understory, along with some native species such as tufted hairgrass (*Deschampsia cespitosa*), and soft rush (*Juncus effuses*). These areas have been grazed in the past as evidenced by cattle pugging in the wetter areas and denuded vegetation.

Conifer-Hardwood Forest: Covering approximately 18.2 acres on the north facing slopes to the south of Mulkey Creek, this area supports a mixed of maturing Douglas-fir and bigleaf maple (*Acer macrophyllum*) with a lush native understory and a number of large old snags and down logs scattered throughout the stand. This area is relatively moist and productive, capable of growing stable mature forest stands with stands notably containing more maple than oak, and more sword fern than false brome. There has been little of no past logging in this area. Areas abutting Mulkey Creek are excessively steep with some areas classified by Oregon Department of Forestry as having a *High Landslide Hazard* (Trout Mountain Forestry).

Fir-Oak Forest: Covering approximately 20.8 acres on south and west facing slopes of Mulkey Ridge, this area is dominated by Douglas-fir with Oregon white Oak present is lesser quantities. Numerous oak snags, deadfall, and occasional surviving oaks suggest that these areas were once much more open and oak dominated. Most areas were thinned in 2000, but there has been no earlier logging in this area. As such there is a poorly developed understory of poison oak, hazel, and other dry-site shrubs, though dominated in many areas by false-brome and exotic blackberry. Many trees responded well to the recent thinning and are growing well, though some areas are growing poorly and should be regenerated to Douglas-fir. Grand fir has naturally seeded into some past harvest areas in high numbers, though a poorly suited tree for such a dry site (Trout Mountain Forestry).

Oak-Fir Forest: Covering a total of approximately 49.0 acres of south and west facing slopes in several patches, these areas support a relatively higher number of oaks and continue to be oak dominant, though Douglas-fir numbers are increasing. Without intervention Douglas-fir is poised to become more dominant over time. Understory vegetation is dominated by poison oak and false brome, with increasing amounts of invasive oneseed hawthorn, Himalayan blackberry, and English holly establishing. Snag numbers and down wood levels are relatively low (Trout Mountain Forestry).

Conifer Forest: Covering approximately 9.6 acres of the productive north facing slopes in the northeast corner of the site, this conifer forest is dominated by a dense stand of grand fir (*Abies grandis*) that naturally reseeded after timber harvest occurred in this area around 1950. A few residual old-growth Douglas-fir (*Pseudotsuga menziesii*) are present with scattered hardwoods and a well-developed forest understory of sword fern (*Polystichum munitum*), hazelnut (*Corylus cornuta*), oceanspray (*Holodiscus discolor*), and poison-oak (*Toxicodendron diversilobum*), with scattered pockets of non-native false brome (*Brachypodium sylvaticum*) present (Trout Mountain Forestry).



Legend

- Bald Hill Farm Site Boundary
- Infrastructure Zone
- Rare/Uncommon Plants (see key)

Vegetation Communities:

- Upland Prairie (UP)
- Wetland Prairie (WP)
- Oak Savanna (OS)
- Oak Woodland (OW)
- Riparian Forest (RF)
- Riparian Shrub (RS)
- Shrub (Sh)
- Oak-Fir Forest (OFF)
- Fir-Oak Forest (FOF)
- Conifer-Hardwood Forest (CHF)
- Conifer Forest (CF)

Key:

Known Rare and Uncommon Plant Populations

SINE = Nelson's checkermallow (*Sidalcea nelsoniana*)
ERDE = Willamette daisy (*Erigeron decumbens* var. *decumbens*)
LUORK = Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*)
LAHO = Thinleaf pea (*Lathyrus holochlorus*)
ACEL = Tall bugbane (*Actaea elata*)

greenbelt land trust

0 500 1,000 feet

Scale

= One Acre

N W E S

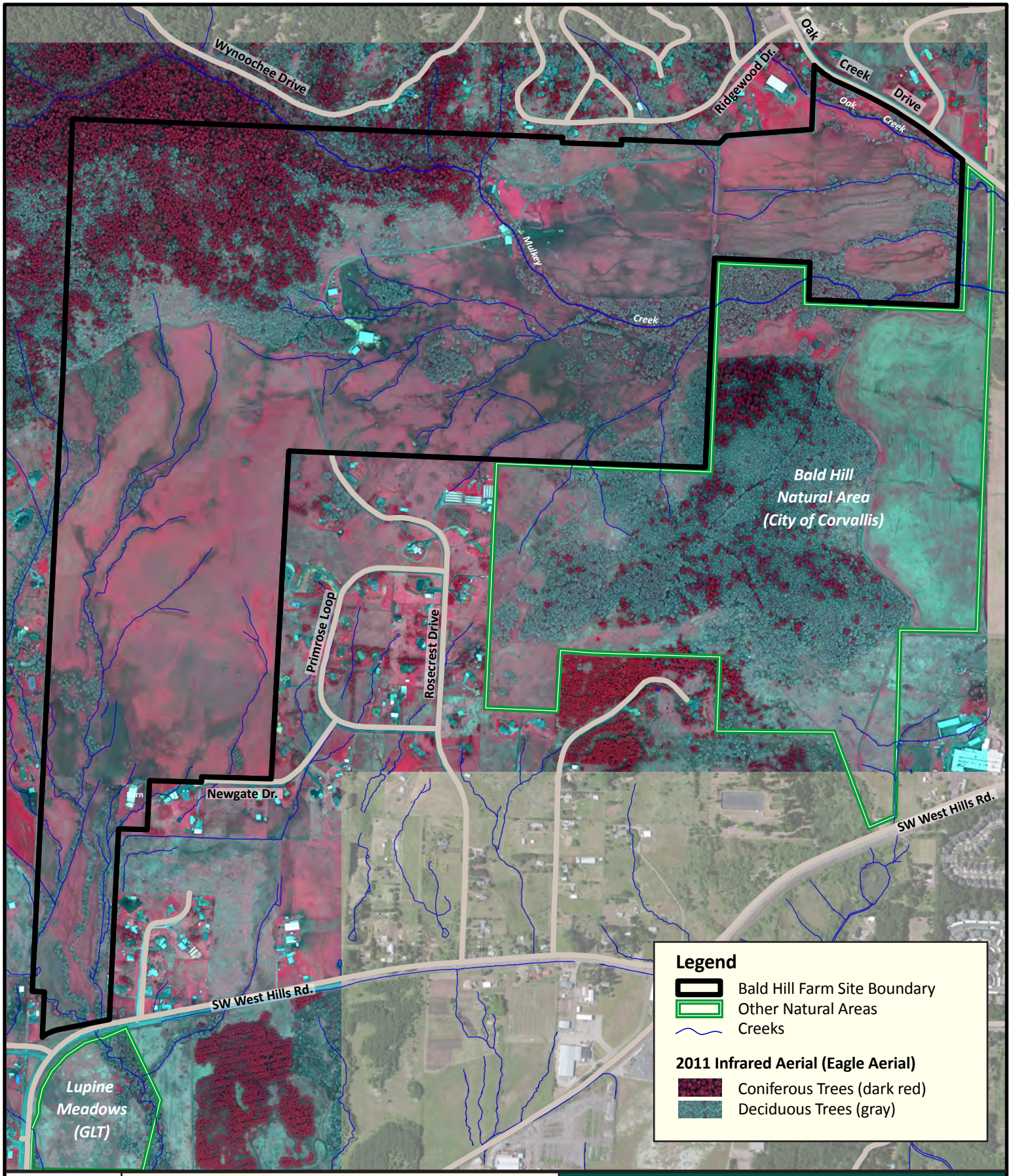
November 2014

Map-7

Map produced by JKE

Bald Hill Farm Management Plan

Existing Vegetation Communities Map



greenbelt land trust

0 500 1,000 feet

Scale

= One Acre

N W E S

November 2014

Map-8

Map produced by JKE

Bald Hill Farm Management Plan

2011 Infrared Aerial Photo

Upland prairie located on the southern end of the site (looking north)

Wetland prairie area with higher native plant composition located near Mulkey Creek

Wetland prairie and riparian forest along Mulkey Creek near the east end of the site (RaptorViews)

Oak savanna transitioning to woodland and forest

Oak woodland

Oak woodland (RaptorViews)

Riparian forest and aquatic habitat along Mulkey Creek

Oak-fir forest adjacent to upland prairie

Fir-oak forest with downed oaks

Table 2-3: Vegetation Communities

Vegetation Community	Acres	Typical Canopy	Oregon Conservation Strategy Habitat*
Upland Prairie	173.4	0-5%	Yes: Grasslands
Wetland Prairie	146.5	0-5%	Yes: Grassland and Wetlands
Oak Savanna	44.2	6-30%	Yes: Grasslands (includes savanna)
Oak Woodland	28.0	31-70%	Yes: Oak Woodlands
Riparian Forest/Riparian Shrub**	64.4	0-100%	Yes: Riparian and Freshwater Aquatic
Shrub	24.0	6-50%	No (but defined as conservation value)
Fir-Oak Forest	20.8	70-100%	No
Oak-Fir Forest	49.0	70-100%	No (yes, with oak woodland densities)
Conifer-Hardwood Forest	18.2	90-100%	No
Conifer Forest	9.9	90-100%	No
Infrastructure	9.6	-	No
Total:	**588.0**		

** The Oregon Conservation Strategy (ODFW, 2006) has designated a list of Strategy Habitats for each ecoregion within the state. Strategy Habitats include those habitat types that have declined significantly within the ecoregion since Euro-American settlement began in the 1850s or that have been badly degraded.*

***Includes freshwater 7,300 lineal feet of aquatic habitat along perennial stretches of Mulkey Creek and Oak Creek.*

2.6.2 Rare and Uncommon Plant Populations

Rare and uncommon plant populations on Bald Hill Farm were surveyed by the Institute for Applied Ecology (IAE) in 2007/2008 as part of the Benton County Prairie Species HCP, and again in 2010 to confirm locations, reassess abundance, and evaluate the condition of the associated habitat. Survey results are documented in the *Botanical Survey and Rare Plant Assessment at Bald Hill Farm* (July 2010). Additionally, the Carex Working Group noted rare species they observed during their 2013 survey work for the *Bald Hill Farm Riparian, Wetlands, and Grazing Assessment*. Based on these surveys, Bald Hill Farm is known to contain populations of three federally listed plant species including Willamette daisy (*Erigeron decumbens* var. *decumbens*), Nelson's checkermallow (*Sidalcea nelsoniana*), and Kincaid's lupine (*Lupinus sulphureus* ssp*. kincaidii*) as well as a federal species of concern, the thinleaf pea (*Lathyrus holochlorus*), and a state candidate species, tall bugbane (*Actaea elata*). The approximate location of these plant populations is shown on the *Existing Vegetation Communities Map*.

Nelson's checkermallow (Bruce Newhouse)

Table 2-4: Known Rare and Uncommon Plant Populations

Species	Status	BHF Location	Comments
Nelson's checkermallow (*Sidalcea nelsoniana*)	Listed as threatened under the federal ESA in 1993; Listed as threatened by the state of Oregon	Upper tributary of Newton Creek (polygons 62, 63, 82); Near southern edge of site (polygons 94, and 97); Near Mulkey Creek (polygons 8, 9, 20);	Occurs in wetland prairies and open areas with damp soil
Willamette daisy (*Erigeron decumbens* var. *decumbens*)	Listed as endangered under the federal ESA in 2000; Listed as endangered by the state of Oregon	South of Mulkey Creek (polygons 18, 20)	Occurs in both wetland prairie and upland prairie or oak savanna, preferring sites with very little shrub cover
Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*)	Listed as threatened under the federal ESA in 2000; Listed as threatened by the state of Oregon.	Upper tributary of Newton Creek (polygon 63)	Kincaid's lupine typically occurs in upland prairies on the valley bottom or surrounding foothills. Kincaid's lupine is a host plant for the endangered Fender's blue butterfly
Thinleaf pea (*Lathyrus holochlorus*)	Species of concern in the state of Oregon	Near Kinciad's lupine population on upper tributary of Newton Creek (polygon 63)	Associated with upland prairie - oak woodland ecotone
Tall bugbane (*Actaea elata*)	State of Oregon candidate species	Upper reaches of Mulkey Creek (polygon 105)	Associated with moist woodlands and forest

2.6.3 Invasive Exotic Vegetation

Long-term site disturbances at Bald Hill Farm caused by agricultural and logging practices, grazing and other anthropogenic causes, and natural events like flooding and wildlife interactions (birds, deer) have contributed to the fact that many of the site's habitats are dominated by non-native and often invasive plant species. Botanical surveys conducted in 2007, 2010, and 2013 have documented the site's vegetation (see Appendix D: *Botanical Survey and Rare Plant Assessment at Bald Hill Farm* and Appendix E: *Botanical Survey of Forested Portions of Bald Hill Farm*) and noted the presence of extensive non-native cover including trees, shrubs, grasses and forbs.

In general, the prairie areas are dominated by non-native pasture grasses including creeping bentgrass (*Agrostis stolonifera*), bristly dogtail grass (*Cynosurus echinatus*), Kentucky bluegrass (*Poa pratensis*), soft brome (*Bromus hordeaceus*), tall fescue (*Schedonorus arundinaceus*), meadow foxtail (*Alopecurus pratensis*), crested dogstail grass (*Cynosurus cristatus*), and common velvetgrass (*Holcus lanatus*). Pennyroyal (*Mentha pulegium*) is common in the wetter prairie areas. Many of the riparian corridors, woodlands, and forest edges contain dense concentrations of Himalayan blackberry (*Rubus armeniacus*). Highly invasive false brome (*Brachypodium sylvaticum*) is well established within the forested areas of the site, where it is often found in dense stands. Lemon balm (*Melissa officinalis*) is establishing along the trail in the forested area. English ivy (*Hedera helix*) is

Himalayan blackberry and oneseed hawthorn are common along oak woodland and riparian forest edges, but have yet to become widely established in the prairies.

establishing in several locations on the eastern edge of the property, but is not yet widespread. Meadow knapweed (*Centaurea pratensis*) and Scotch broom (*Cytisus scoparius*) is also present in small quantities along the gravel road that enters the site from Oak Creek Drive and a number of white poplar (*populus alba*) are present along Mulkey Creek near the house. Other common invasive species present on the site include oneseed hawthorn (*Crataegus monogyna*), Canada thistle (*Cirsium arvense*), teasel (*Dipsacus fullonum*), St. John's wort (*Hypericum perforatum*), and cutleaf geranium (*Geranium dissectum*). Italian lords-and-ladies (*Arum italicum*) is present, including a small patch in the southwest portion of the site on the north side of the dilapidated animal shed, and extensive populations along the banks of Mulkey Creek downstream of the house.

False brome has become widespread in many of the forested areas and along some trail corridors.

Table 2-5: High and Medium Impact Invasive Species Present at BHF

Scientific Name	Common Name
High Impact (often form near-monocultures, becoming the only dominant member of a plant community and have potential to severely modify native habitats)	
Brachypodium sylvaticum	false brome
Crataegus monogyna	oneseed hawthorn
Cytisus scoparius	Scotch broom (L)
Hedera helx	English ivy (L)
Leucanthemum vulgare	oxeye daisy
Mentha pulegium	pennyroyal
Phalaris arundinacea	reed Canarygrass
Rubus armeniacus	Himalayan blackberry
Centaurea pratensis	meadow knapweed (L)
Medium Impact (moderately invasive, but may not disperse widely from a source. May form small near-monocultures, or be one of two or more dominant members of a plant community. They moderately impact native habitats)	
Hypericum perforatum	St. John's wort
Melissa officinalis	lemon balm (L)
Prunus	plum
Pyrus communis	domestic pear
Rosa rubiginosa	sweetbriar rose
Solanum dulcamara	climbing nightshade (L)
Vinca minor	lesser periwinkle (L)
Watch List (possible threat if established)	
Arum italicum	Italian lords-and-ladies (L)
Populus alba	white poplar (L)

L= limited distribution (all other species are widely established)
Source: Ranking system developed by Native Plant Society of Oregon (Emerald Chapter)

2.7 Wildlife

2.7.1 Strategy and Priority Wildlife Species

No comprehensive surveys for mammals, reptiles, amphibians, or insects have been conducted at Bald Hill Farm, but numerous informal surveys have occurred and unique sightings have been recorded. Extensive bird surveys have been conducted at Bald Hill Farm for a number of years and a six point station count was conducted in 2010 by Bob Altman. A complete list of birds from the 2010 survey, totaling 53 species, is included in Appendix F.

The following Strategy Species identified in the *Oregon Conservation Strategy* (ODFW, 2006) or *Priority Species* identified by OWEB that are known to occur on or in the immediate vicinity of Bald Hill Farm.

Table 2-6: Strategy Species and Priority Species On or Near BHF

Common Name	Scientific Name	Comments	Lists
Species Known to Occur on the Site			
acorn woodpecker	*Melanerpes formicivorus*	Small colony with two birds detected along the creek near house (Altman, 2010)	OCS and OWEB
American Kestrel	*Falco sparverius*	Further monitoring needed to determine if nesting Kestrels are present on site	OWEB
chipping sparrow	*Spizella passerine*	Probably 2-3 pairs based on territorial singing house (Altman, 2010)	OCS and OWEB
Oregon vesper sparrow	*Pooecetes gramineus affinis*	Probably 9-10 pairs based on territorial singing. This is one of the larger known populations of this species in the mid-Willamette Valley (Altman, 2013).	OCS and OWEB
slender-billed nuthatch	*Sitta carolinensis aculeate*	Probably 2-3 pairs based on territorial singing (Altman, 2010)	OCS and OWEB
western bluebird	*Sialia mexicna*	Nesting in Audubon maintained bird boxes on site	OCS
western meadowlark	*Sturnella neglecta*	Wintering birds at BHF	OCS and OWEB
western gray squirrel	*Sciurus griseus*	Inhabiting oak woodland and oak-fir woodland/forest areas	OCS and OWEB
northern red-legged frog	*Rana aurora*	Monitoring needed to better identify locations	OCS and OWEB
Species Known to Occur in the Immediate Vicinity of the Site			
Fender's blue butterfly	*Icaricia icarioides fenderi*	Present at Lupine Meadows	OCS and OWEB
spring Chinook salmon	*Oncorhynchus tshawytscha*	Oak Creek is thought to be used by juvenile Chinook salmon	OCS and OWEB
Taylor's checkerspot butterfly	*Euphydryas editha taylori*	Present at Fitton Green and nearby powerline right-of-way	OCS and OWEB
western pond turtle	*Actinemys marmorata*	Known populations in Oak Creek, but not confirmed at Bald Hill Farm	OCS and OWEB
Additional Species that Might use the Property			
short-eared owl	*Asio Flammmeus*	Not recorded, but potential habitat	OCS and OWEB
yellow warbler	*Dendroica petechial*	Not recorded, but ideal habitat	OWEB

Slender-billed nuthatch (Cary Kerst)

Acorn woodpecker (Cary Kerst)

2.7.2 Other Noteworthy Native Wildlife

As a result of the wide range of habitat conditions, a diverse assemblage of wildlife species occurs on Bald Hill Farm and more comprehensive wildlife surveys will be scheduled in the future. In addition to the *Oregon Conservation Strategy* and *OWEB Priority Species* listed above, the following noteworthy sightings have been recorded at Bald Hill Farm:

- American beaver are active throughout much of the bottomland reach of Mulkey Creek and have created ponds in several locations.
- Elk and mountain lion are occasional visitors to the site based on reported sightings by neighbors.
- Bald eagle (roosting), Lazuli bunting, pileated woodpecker (nesting), Pacific-slope flycatcher, red-breasted sapsucker, Myrtle warbler (yellow-rumped warbler), black-throated gray warbler, American kestrel, and Swainson's thrush have been recorded on the site. A nesting site of northern spotted owls was identified on an adjacent property, close to the northwest corner of the Bald Hill Farm in 1997-1998.
- Although no formal fish surveys have been conducted at Bald Hill Farm, Oak Creek and lower Mulkey Creek likely contain native fish assemblages including cutthroat trout, sculpin, speckled dace, redside shiner, chiselmouth, peamouth, northern pikeminnow, largescale sucker, three spine stickleback, Pacific lamprey, brook lamprey, and mountain whitefish (Personal communication with Karen Hans, ODFW).
- Oak Creek is used by juvenile Chinook salmon downstream of approximately SW Jefferson Way and SW 35th Street in Corvallis (ODFW). They have not been documented as far up stream as Bald Hill Farm.

2.7.3 Non-Native Wildlife

The following non-native wildlife species have been recorded at Bald Hill Farm or could possibly be present or become established in the future:

- Large flocks of wild turkeys are commonly seen throughout the property.
- European starlings and house sparrows have been observed on the site.
- Virginia opossum is likely to be present on the site and are known to inhabit the surrounding area.
- Feral cats may be present on the site, but have not been recorded.
- Nutria, bullfrogs, and red-eared slider turtles are common non-native species in the Willamette Valley and are likely present on the site, but have not been recorded.

2.8 Existing Facilities and Infrastructure

2.8.1 Roads

A network of roads and travel lanes currently exists on the site, providing access to the house, shop, various barns and outbuildings, and other property infrastructure. Some of the roads in the northeast corner of the site also act as recreational trails as permitted through established trail easements. There are several logging skid roads, two of which are mapped, located in the forested northwest corner of the property. Road surfaces are dirt and gravel and road widths vary from 10 to 20 feet (see *Existing Infrastructure and Facilities Map*). Vehicle entrances to BHF are gated and locked except when staff or tenant farmers are onsite.

Gravel road and out-buildings

A number of water crossings are located on the site including two concrete bridges and a wooden foot bridge. The first is a concrete bridge on concrete pilings over Oak Creek near the public parking area, which measures 36 feet long and 16 feet wide. The second is a concrete bridge on concrete rubble pilings around a 4 foot diameter metal culvert over Mulkey Creek, measuring 25 feet long. The bridge over Mulkey Creek appears to be in fair condition, although wooden sides have decayed, exposing non-structural rebar at the edges (see *Infrastructure and Facilities Map*). There is a concrete low-water crossing at a wet area in the field that passes water across the west most farm road, which appears to be in excellent condition. A wooden foot bridge spans Mulkey Creek on the Mulkey Ridge trail. Additionally, more than twenty culverts made of black plastic, PVC, or concrete which are between 8 to 12 inches in diameter between 9 and 134 feet long provide drainage under roads and trails throughout the site. The culverts near the east most trail/road channel water onto the adjacent property. None of the culverts are on waterways that appear to be fish bearing and therefore none of the culverts appear to impede fish passage.

2.8.2 Recreational Trails

The property contains approximately 14,500 lineal feet (2.7 miles) of dirt and gravel surfaced trails, which are open to the public under a trail easement held by Benton County (see *Existing Infrastructure and Facilities Map*). The trail easement, which includes parts of the roads on the site, are open to foot traffic, bikes, and horses. The single track trail segment to the west of the Mulkey Creek crossing is closed to horse and bicycle use from October 31 through April 15 to limit impacts. The existing trail network extends from the Bald Hill Natural Area public parking lot on Oak Creek Drive and runs along a graveled road, then a gravel surfaced trail to the top of the property, with a spur trail leading off of this toward the Fitton Green Natural Area. Another trail

Recreational trail

segment extends south, connecting to the extensive trail network at the City of Corvallis owned Bald Hill Natural Area. The recreational trails are extensively used by the community throughout the year and will likely see increased use as the trail network expands and links to other trail systems. The trail system includes a major wooden pedestrian bridge that crosses Mulkey Creek along with six smaller wooden foot-bridges that range from 6 feet to 20 feet long and 4 to 6 feet wide, all crossing braided portions of Mulkey Creek.

2.8.3 Public Parking

There is currently no public parking directly on the GLT Bald Hill Farm property. Public parking is available for trail users in a City owned paved parking lot on Oak Creek Drive, which has room for 32 vehicles, including two handicapped spaces. This parking area is heavily used and often at or near capacity. The parking lot is not gated at night. There is additional parking nearby on Reservoir Road and at the Benton County Fairgrounds.

2.8.4 Structures and Utilities

There are a number of structures located on the site including a single family residential house with carport, a shop, a pump house, a small trail shelter, two dilapidated animal sheds, and five barns (see *Existing Infrastructure and Facilities Map*). The largest and most structurally sound barn is located on the southern end of the property, measuring 65 by 120 feet, with a concrete floor and steel superstructure. Electricity has been extended to the shop, house, and barns and a buried natural gas line extends to the northern barn. Wells provide water to the shop and house and a phone line runs into the house.

Building Zone: The BPA Conservation Easement designates a *Building Zone*, around where the existing structures are located. Within this 28.1-acre Building Zone, GLT retains the right to maintain, retain, or demolish, replace, repair, or upgrade buildings within their existing footprint as shown in the BPA Conservation Easement Baseline Report. Additionally, GLT reserves the right to build new structures within the designated Building Zone as long as the combined square footage of the new and existing buildings do not exceed 35,000 square feet, with additional square footage possible through written approval by BPA (see *Easements and Overlays Map*).

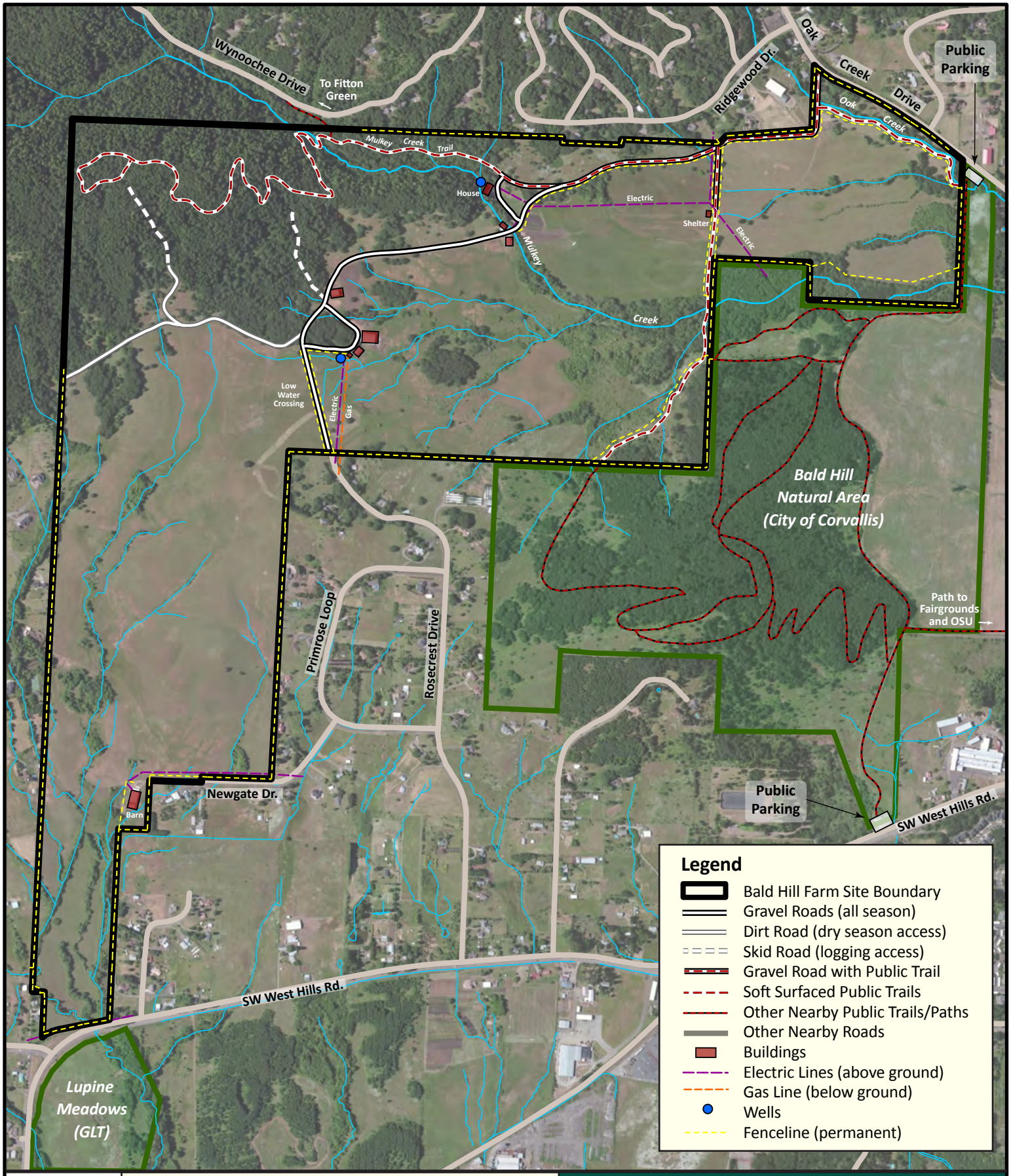
2.8.5 Fences

There are perimeter boundary fences and interior fences enclosing many pastures, along roads and trails, and around the feeder barn. There are several gates in the perimeter fence and many in the interior fences (see *Existing Infrastructure and Facilities Map*). Temporary electric fencing is currently used for rotational grazing.

2.8.6 Signage

In fall of 2013, informational signage was installed throughout the site. Signs were approximately 12 by 18 inches, except for two entry-way signs which were installed in existing large metal frames left by the previous owner, thus allowing for use of signs larger than permitted in the easement. Signs include:

- Entry signs with property name and contact information at trail and road access points.
- Signage at gates identifying property ownership and access rules
- Road/trail signs including a “yield” pictogram for multi-use trails, and miles-per-hour posting
- “Private property” signs asking trail users to avoid the private drives leading to the residence
- “No hunting” signs at approximately 1000 foot intervals along the NW perimeter of the property, in response to neighbor complaints of poachers
- Boundary markers—installation presently in progress



greenbelt land trust

0 500 1,000 feet

Scale

= One Acre

N W E S

November 2014

Map-9

Map produced by JKE

Bald Hill Farm Management Plan

Infrastructure and Facilities Map

2.9 Agricultural Uses and Impacts

Cattle grazing at Bald Hill Farm

Much of the Bald Hill Farm property has been used for grazing of cattle and sheep and haying at various levels for several decades. The 2013 *Bald Hill Farm Riparian, Wetlands, and Grazing Assessment* conducted by the Carex Working group found that virtually all habitats on the site have been significantly impacted by livestock grazing. As a result, all habitats are degraded to some degree relative to conditions present at settlement, and most are severely degraded. Most of the grasslands and oak woodland understories are dominated by non-native plant species, often to the complete exclusion of native plants. Soils with high clay content that are wet for long periods are particularly susceptible to pugging and churning caused by livestock. This consistent soil disturbance has provided opportunities for weed invasion and causes local and downstream water quality impacts due to increased erosion, sedimentation, and animal waste inputs. Livestock in streams have caused stream bank collapse and direct inputs of biological wastes. Oak Creek has been identified as exceeding water quality standards for E. coli and water temperature (DEQ 2010). Livestock impacts are concentrated near barns, farm yards, and other feeding and watering areas. In addition, livestock have likely impacted rare plant populations through direct grazing, trampling, and disturbance of prairie habitats making them susceptible to invasion by invasive species that out-compete native species.

In the years prior to GLT acquisition, the agricultural operation included pasturing of mother cows and calves, transitioning to feeder calves in recent years. The average herd size may have been 100 cows and 100 sheep. GLT has maintained some of these agricultural uses through a short-term agricultural lease. Currently there are approximately 70 mother cows and calves, 50 sheep, 300-500 laying hens, and seasonally for approximately 3 months, 2500 broiler chickens.

Agricultural Zone: Within the BPA Conservation Easement, two *Agricultural Zones* totaling 121.0-acres were designated. Agricultural uses within this area may include grazing, pasture improvement, fence installment, and other activities associated with typical agricultural uses allowed under law. The Agricultural Zone, consists of pasture land that will be used primarily for grazing with fencing, disking, and farm implement use allowed in a manner further provided in the Management Plan. GLT reserves the right to lease the use of the Agricultural Zone and is also permitted to use grazing as a controlled managing technique outside the Agricultural Zone as described in the Management Plan (see *Easements and Overlays Map*).

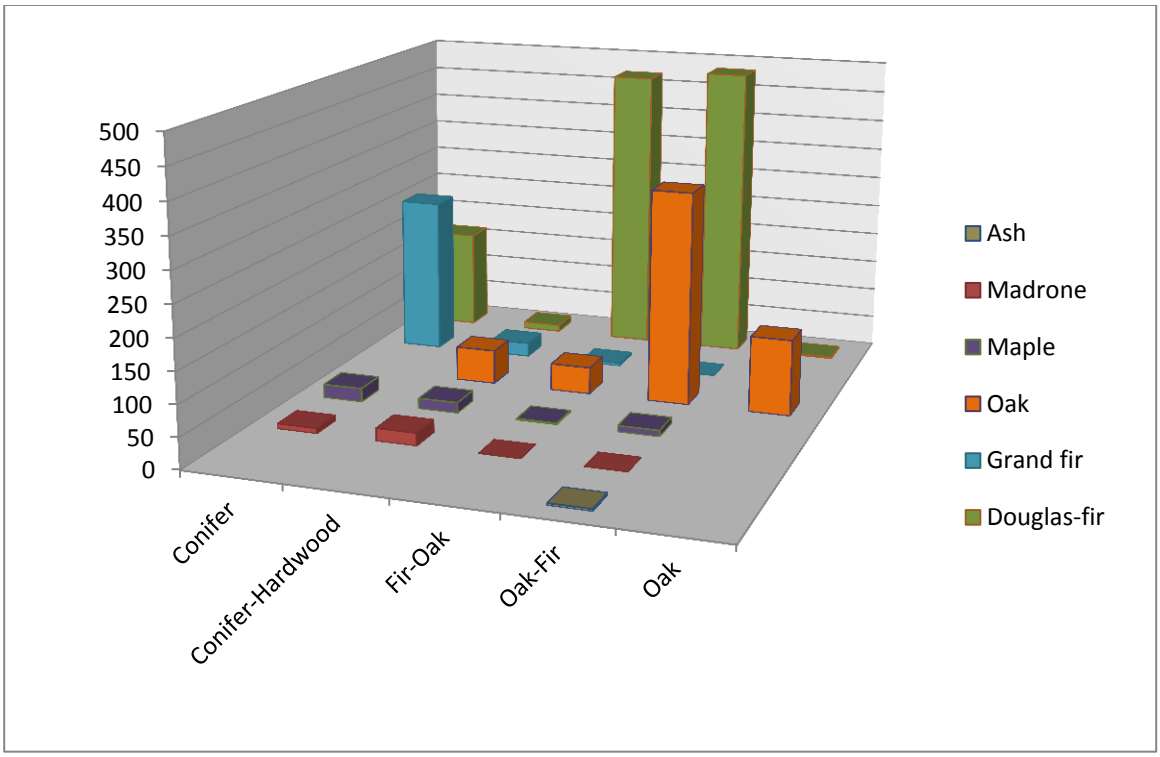
2.10 Forest Resources and Forest Stewardship Plan

In 1998, Trout Mountain Forestry completed a Forest Management Plan for the approximately 160 acres of upland forest based on Forest Stewardship Council (FSC) standards and the site was certified under the standards. GLT contracted with Trout Mountain Forestry in December 2013 to revise and update the Plan. The updated Plan was completed in May 2014. This Plan includes an overview of prior forest management actions conducted on the site, environmental context, inventory and classification of existing forest vegetation, desired future condition and recommended management approaches for each forest type, and a recommended fire plan. The full revised Forest Stewardship Plan is included in Appendix G.

2.10.1 Timber Cruise and Allowable Timber Harvest

As part of the revised Forest Stewardship Plan, the timber on the property was cruised by Trout Mountain Forestry in January 2014 to develop a baseline for the site to assist in ongoing management. The timber harvest was calculated based on the recommendations of the Forest Stewardship Plan, which are consistent with this Management Plan. The timber inventory data indicate a total of 1,516 thousand board feet (MBF) of merchantable conifer timber on approximately 121 forested acres.

Figure 2-2: Timber Volume by Forest Type and Species (in MBF)



Source: Trout Mountain Forestry (January 2014)

Based on this, allowable timber harvest is comprised of two components: timber that will be removed in the short term (1-3 years) to meet restoration goals, and timber that could be harvested periodically under sustainable management regime. The former pertains to oak and oak-fir stands; the later pertains only to conifer and fir-oak stands. Conifer-Hardwood and Riparian stands are not considered part of the commercial management base, and are not considered for allowable harvest calculations. Allowable cut is calculated based on the availability of conifers, with the understanding that most hardwoods will be retained to meet habitat conservation goals and is as follows:

- During the initial 10-year management period, approximately 200 MBF is available for one-time harvest in oak and oak-fir restoration

Fir-oak forest near Mulkey Ridge

stands, with an additional approximately 400 MBF available from a combination of oak release and conifer thinning in fir-oak and conifer stands.

- For the second 10-year period allowable harvest levels are calculated only on the 30.6 acres designated for long-term conifer management. Growth during this period is expected to be approximately 170 MBF. This assumes that growth rates average a conservative 2 percent, reflecting the relative maturity of the timber and planned retention of hardwoods and mature conifer legacies. As additional young growing stock is added growth rates could increase to 3 percent or more.

Detailed forest restoration budget tables are contain within the Forest Stewardship Plan in Appendix G.

2.10.2 Recommendations, Costs, and Revenues

The *Forest Stewardship Plan* included the following set of recommendations related to forest management:

- Remove competing conifers that threaten heritage oaks (all types)
- Reduce oak stocking to create open woodland and savanna habitat (oak, oak-fir)
- Thin conifers to improve timber quality and growth rate; harvest maturing trees before decline and/or loss of market value (conifer, fir-oak)
- Establish new conifer plantings to establish a new age cohort and to help control invasive weeds (conifer, fir-oak)
- Reduce invasive species (all types)
- Manage slash to reduce fuel loads, enable invasive weed control, and maintain aesthetics (all types)
- Create snags and woody debris piles (conifer-hardwood, fir-oak, oak-fir)
- Manage some areas with a wildlife habitat emphasis, with no commercial timber removals (riparian, conifer-hardwood, oak, parts of all other types)

Conifer removal would be treated as a commercial harvest operation, with harvest prescriptions and layout that emphasize protection of oak and other sensitive resources (e.g. equipment specification, logger selection, performance standards). Funds from log sales could be used to help fund other stewardship costs. Provisions for understory management and invasive species control would be integrated into all operations.

Table 2-7 below shows combined restoration expenses for the three areas combined and the net revenue generated from selling conifer logs from the upland forest. See the complete project budget in Appendix G for details.

Table 2-7: Estimated Restoration Costs and Revenues

Treatment Acres	Average Treatment Cost ($/Ac)	Total Treatment Cost	Total Project Revenue	Total Project Net
116.1	$1,644	$190,814	$205,527	**$14,713**

Source: Trout Mountain Forestry (April 2014)

2.11 Management Activities Completed Since GLT Acquisition

Upon acquisition of the property in 2013, GLT has implemented some limited management and maintenance activities as summarized below:

Invasive Species Control:

- Blackberry was cut along fence lines and a portion of Mulkey Creek, with follow-up herbicide applications
- False brome controlled with herbicide applications along the Mulkey Creek/Ridge trail, farm roads, and skid roads to help prevent spread of seed
- Management of trailside thistles, meadow knapweed, poison hemlock with herbicide application and removal of seed-heads (knapweed)
- Spot and boom treatment of discrete populations of thistles, teasels, and false brome in select fields
- Removed a small population of lords-and-ladies (*Arum italicum*) next to dilapidated animal shed

- Targeted mowing of flowering Canada thistle plants during summer 2013 followed by limited herbicide treatments in the fall
- Scotch broom was cut in spring 2013, prior to ownership, during flowering, to help prevent spread of seed with follow up cutting and cut stump treatment in spring 2014
- Removed 75-100 small Douglas-fir trees that were encroaching in oak savanna habitats an area of approximately 6 acres
- Boom sprayed nearly 100% cover of invasive and non-native species across a 3-acre field in preparation for reseeding to upland prairies species
- Used grazing by cattle and sheep to help manage invasive and non-native species in fields

House Maintenance

- Repaired damage caused by fallen tree
- Completed much of the deferred maintenance
- Corrected electrical and plumbing deficiencies
- Evaluated septic and created a plan to conduct major repair to septic system in spring 2014

Shop Maintenance

- Cleaned and painted interior of main-floor storage area
- Repaired weather stripping and springs on garage doors
- Evaluated septic and created a plan to install new septic in spring 2014

Wells

- Tested both wells for coliform bacteria, nitrates, and arsenic
- Treated the shop well for coliform bacteria
- Constructed a new insulated shelter over the house well of approximately 4'x4'x4'

House under renovation

Fencing

- Cleared blackberry from fencing along the main road to the house
- Installed approximately 2,100 lineal feet of fencing along the dirt road that runs from the shop to the west property line. The new fence is 5 strands of high tensile smooth wire with 3 strands insulated for electricity.

2.12 Cultural Resources

The State Historic Preservation Office (SHPO) will be contacted for a review of potential historic or cultural sites present in the project area if a project disturbing the soil is planned, in accordance with state and federal permitting requirements. Given the setting of Bald Hill Farm in the central Willamette Valley, it is possible that areas of the site were used by native peoples. In the event that any cultural materials are encountered during project activities a qualified archeologist will be contacted to evaluate the discovery. As listed in Section 4 of the OWEB Conservation Easement, the excavation, injury, destruction, removal, or alteration of any cultural resources on or about the property, except for activity authorized by a permit issued under ORS 390.235 and undertaken in compliance with all state and federal laws related to archeological objects and sites and cultural resources as defined in ORS 358.905 and OAR 736-018-0020 is prohibited.

Section 3: Conservation Priorities, Constraints, and Opportunities

3.1 Conservation Priorities

Greenbelt Land Trust's conservation interests and management intent at Bald Hill Farm is to conserve and restore regionally rare and imperiled vegetation communities and associated native plant and wildlife species. The conservation targets listed below are based on the defined Conservation Values for the site and priority systems that have been identified in the *Oregon Conservation Strategy* (ODFW, 2006). Priority vegetation communities at Bald Hill Farm include the following:

- Grasslands (upland prairie, wetland prairie, and savanna)
- Oak Woodland
- Riparian Forest and Riparian Shrub (including aquatic in Mulkey Creek and Oak Creek)
- Aquatic

Wetland Prairie

Upland Prairie

Oak savanna and woodland

Riparian and Aquatic

3.1.1 Target Vegetation Communities and Nested Targets Species

The term "system target" is used to describe a set of vegetation communities or ecological systems that have been chosen as priorities for conservation and restoration within the site. The term "nested target" denotes individual plant or animal species of conservation importance that depend on each of the system targets. Combined, the system targets (vegetation communities) at Bald Hill Farm cover 451.2 acres of the 588.2-acre site, or 77% of the total area. The remaining area includes 100.8 acres of forest (conifer, oak-fir, fir-oak, and mixed), 24 acres of shrub, and 11.6 acres of infrastructure. The site's vegetation communities are described in detail in section 2.6.

Table 3-1: Priority Conservation Habitats and Species

System Targets	**Key Attributes**	**Current Key Attribute Condition**	**Nested Targets** (Threatened or Endangered ESA species in **bold**) (Oregon Conservation Strategy and/or OWEB species in *italic*)	
Systems (Vegetation Community)	Size, Composition Structure or Connectivity	Poor, fair, good, very good	Plants	Animals
Grasslands (344.0 acres) Upland Prairie, Oak Savanna, and Wetland Prairie	Size =	**Very Good** for size of connected habitat blocks.	Currently on site: ***Nelson's checkermallow***, ***Willamette daisy***, ***Kincaid's lupine***, thinleaf pea (Fed-SOC) Not currently on site: ***golden paintbrush***, ***Bradshaw's lomatium***	Currently on site: *Oregon vesper sparrow, western bluebird*, *western meadowlark,* northern harrier Not currently on site: ***Taylor's checkerspot***, ***Fender's blue butterfly***, *short-eared owl,* savannah sparrow
	Composition =	**Poor** for herbaceous layer composition.		
	Structure =	**Fair to Good** for open-grown oaks in savanna area and limited woody encroachment in prairies		
Oak Woodland (40.4 acres)	Structure =	**Fair** for invasive shrub and tree component and conifer encroachment	Currently on site: thinleaf pea (Fed-SOC)	Currently on site: *acorn woodpecker, chipping sparrow, slender-billed nuthatch, western gray squirrel*, Lazuli bunting, pileated woodpecker
	Composition =	**Poor to Fair** for herbaceous and shrub layer composition		
Riparian Forest and Riparian Shrub (66.8 acres)	Size =	**Fair** for size of connected habitat blocks	Currently on site: tall bugbane (OR candidate species)	Currently on site: ***northern red-legged frog***, American beaver Possibly on site: *western pond turtle*
	Composition =	**Fair** for non-native vegetation		
	Structure =	**Fair to Good** for canopy structure		
Aquatic (7,300 lf)	Connectivity =	**Good** for open water connections to lower Oak Creek and the Willamette River	None	Currently on site: ***northern red-legged frog***, American beaver (semi-aquatic) Possibly on site: *western pond turtle*, cutthroat trout
	Floodplain Interaction =	**Poor** for channel incision along Oak Creek **Good** for shallow braided channel that interacts with its floodplain and associated wetlands		

3.1.2 Nested Targets Plant and Animal Species

The term "nested target" denotes a particular species of conservation importance that depends on the system target for part or all of its life cycle. Table 3-2 describes the nested target plant species and table 3-3 describes the nested target wildlife species. The nested targets includes all ESA listed species, and species from the Oregon Conservation Strategy and/or OWEB's Priority Species list. Several other additional *keystone* wildlife species have been added as nested targets since they are important indicators of health in the target systems on the site. These include northern harrier, lazuli bunting, pileated woodpecker, American beaver, and cutthroat trout.

Table 3-2: Nested Target Plant Species

Species	Special Needs	Limiting Factors	Conservation Actions
Nelson's checkermallow (*Sidalcea nelsoniana*)	Occurs in wetland prairies and along edges of woodlands and riparian areas	Habitat loss, encroachment by woody vegetation; competition with invasive vegetation; non-compatible agricultural management	Maintain or restore open habitats; maintain or restore hydrology; control key invasive plants; carefully manage agricultural uses
Willamette daisy (*Erigeron decumbens* var. *decumbens*)	Occurs in both wetland prairie and upland prairie or oak savanna, preferring sites with very little shrub cover, often with tufted hairgrass, Roemer's fescue, and California oatgrass	Narrow distribution (endemic to Willamette Valley); habitat loss; degradation due to lack of fire and competition from invasive plants; overspray of herbicides	Maintain or restore open habitats; maintain or restore hydrology; control key invasive plants; use mowing or prescribed fire to control brush and trees; collect and store seeds; carefully manage agricultural uses
Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*)	Occurs in upland prairie, savanna, and woodland edges	Habitat loss due to urbanization and agriculture; exotic grasses and invasive plants	Actively manage open habitats to control woody vegetation and invasive species; re-introduce to appropriate sites in conjunction with Fender's blue butterfly habitat restoration efforts; use mowing or prescribed fire to control brush and trees; control exotic grasses with mowing, grazing, or fire; collect and store seeds; carefully manage agricultural uses
Thinleaf pea (*Lathyrus holochlorus*)	Associated with upland prairie - oak woodland ecotone and riparian forest	Habitat loss; agricultural impacts; lack of fire	Maintain prairie habitats; control invasive non-native vegetation; reintroduce fire
Tall bugbane (*Actaea elata*)	Occurs in shady riparian areas and moist woodland and forest	Logging and agricultural impacts	Avoid direct impacts due to logging and agriculture
Not Currently Present at Bald Hill Farm			
Golden paintbrush (*Castilleja levisecta*)	Occurred in well-drained soils of upland prairie which were historically maintained by fires	Habitat degradation caused by encroachment of native and non-native woody shrubs, herbivory, and poorly timed fire	Maintain or restore open habitats and develop re-introduction strategy (extirpated throughout its range in Oregon, reintroduction programs are now underway in the Willamette Valley)
Bradshaw's lomatium (Lomatium bradshawii)	Occurs in wetland prairie with heavy clay soils	Successional encroachment of shrubs and trees, competition from weedy invasive species, herbivory, and grazing	Maintain or restore open habitats and develop re-introduction strategy

Source: *Oregon Conservation Strategy (ODFW, 2006) and Benton County Prairie Species Habitat Conservation Plan (2010)*

Table 3-3: Nested Target Wildlife Species

Species	Special Needs	Limiting Factors	Conservation Actions
Birds			
Acorn woodpecker	Oak woodlands with a high canopy and relatively open understory; dead limbs or snags for storing acorns	Loss of oak woodlands; small localized populations; competition for nesting cavities from European starlings	Maintain and restore oak woodlands with open understories, especially large patches; maintain snags and older trees with dead limbs
Chipping sparrow	Open areas of herbaceous understory for foraging in understory of oak woodlands	Effects of cowbird parasitism on productivity; feral cats; non-compatible agricultural management	Maintain areas of open herbaceous understory in oak woodlands; control key invasive plants
Lazuli bunting	Savanna and upland prairie with scattered shrubs and trees	Loss of suitable habitat	Maintain prairie and savanna

Northern harrier	Grasslands for hunting rodents and reptiles; prefers habitat patches of 200 acres or more (BCPCS)	Habitat fragmentation	Maintain large patches of upland and wetland prairie
Oregon vesper sparrow	Grasslands for foraging and nesting, usually with scattered shrubs/trees and some bare ground	Impact of grazing and agricultural management on productivity	Maintain and restore grassland habitat; increase plant diversity for greater insect diversity; control key invasive plants, minimize disturbance during breeding season (4/14 – 7/15) at known nesting areas
Pileated woodpecker	Mixed conifer forest and riparian forest	Loss of suitable habitat; lack of snags and dense canopy; removal of large diameter trees	Require large diameter snags or decaying live trees for nesting, foraging, and roosting as well as downed logs for feeding
Savannah sparrow	Upland and wetland prairie, pasturelands	Loss of suitable habitat	Maintain and restore suitable habitat
Short-eared owl	Large expanses of marshes and wet prairies for foraging and nesting; prefers habitat patches of 200 acres or more (BCPCS)	Loss of large expanses of wetland habitat; nests and communally roosts are located on the ground, which make the species vulnerable to disturbance	Maintain and restore wetland habitats, with an emphasis on maintaining large patches and/or expanding smaller ones; minimize disturbance at known communal roosts
Slender-billed nuthatch	Mature oak trees for foraging and nesting cavities	Fewer mature oaks; fewer cavities	Maintain large oaks >22 inches dbh; develop nest box programs for cavity habitat in short-term
Western meadowlark	Large expanse of grasslands for foraging and nesting due to relatively large home range requirements; scattered shrubs, trees or posts for singing perches; prefers habitat patches of 200 acres or more (BCPCS)	Loss and degradation of grassland habitats, nesting failure due to timing of land management practices (e.g. mowing, haying, and spraying)	Maintain or restore grassland habitat – especially large expanses (e.g. >100 acres); increase plant diversity for greater insect diversity; control key non-native plants; minimize disturbance during breeding season (4/15 – 7/1) at known nesting areas
Mammals			
American beaver	Riparian forest, shrub, and perennial waterways	Habitat loss, lack of riparian vegetation	Protect and restore riparian vegetation and limit grazing, develop strategies to limit negative impacts of beaver activity such as blocking culverts and herbivory of newly planted trees and shrubs
Western gray squirrel	Oak woodlands and savanna; mixed oak-pine-fir woodlands; older trees with large limbs; continuous canopy for movements	Habitat loss and fragmentation; vegetation changes due to fire suppression; urban development	Investigate species-specific habitat requirements and observations of site specific use to guide management actions; develop methods to census
Invertebrates			
Fender's blue butterfly	Upland and wetland prairies; requires Kincaid's lupine as a host plant	Habitat loss and degradation due to invasive vegetation and encroachment by woody vegetation	Maintain and restore prairie habitats; protect and restore populations of Kincaid's lupine; introduce native nectar specie; Viable patch size for FBB habitat is a minimum of 15 acres (BCPCS).
Taylor's checkerspot butterfly	Upland prairies; often uses non-native narrow-leaved plantain as host plant	Habitat loss and degradation due to invasive plants and lack of fire	Maintain grassland habitats, increase plant diversity for nectar plants, control invasive plants; Viable patch size for FBB habitat is a minimum of 5 acres (BCPCS).
Reptiles and Amphibians			
Western pond turtle	Marshes, streams, rivers, and ponds; Sparsely-vegetated ground nearby for digging nests; basking logs	Habitat loss; predation by non-native bullfrogs and fish; egg predation by raccoons; inadequate nesting areas	Installation of basking logs and nesting habitat; fencing and/or caging nesting sites after eggs are in the ground to limit predation; control bullfrogs and non-native fish; control invasive species in nesting areas
Northern red-legged frog	Ponds and wetlands with shallow areas and emergent plants; access to forest habitat	Loss of egg-laying habitat; predation and competition by non-native bullfrogs and fish	Maintain wetland habitat with emergent/vernal pool areas; maintain forested habitats; control bullfrogs and non-native fish at key sites
Fish			
Cutthroat trout	Specializes in foraging for invertebrates; prefers cool, clear streams with coarse sediments	Habitat fragmentation; restricted distribution; altered hydrology; poor water quality	Maintain and restore aquatic habitat; protect and improve water quality

Source: *Oregon Conservation Strategy (ODFW, 2006) and Benton County Prairie Species Habitat Conservation Plan (2010)*

3.1.3 Other Significant Vegetation Communities

The non-target vegetation communities at Bald Hill Farm include the forested areas located in the higher elevation area in the northwest corner of the site and cover approximately 98 acres. The forested areas are broken into four classifications of conifer-hardwood forest, fir-oak forest, oak-fir forest, and conifer forest and vary in plant composition based on past management practices and solar access (see section 2.6.1 for detailed descriptions). Portions of this area were selectively logged in the 1920s and again in 1989/1990. The forested areas typically have canopy cover ranging from approximately 70 to 100 percent. Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), and bigleaf maple (*Acer macropyllum*) are more dominant on the shadier north facing slopes, with Oregon white oak (*Quercus garryana*) becoming co-dominant with the Douglas-fir as the forest transitions to oak woodland and oak savanna lower on south facing slopes. Many of the forested areas where oaks are present have potential to be managed for oak release and preservation of legacy oaks if desired. The native understory in these areas vary, but typically include oceanspray (*Holodiscus discolor*), hazelnut (*Corylus cornuta*), western swordfern (*Polystichum munitum*), and pink honeysuckle (*Lonicera hispidula*).

Mixed forest near upper Mulkey Creek (RaptorViewrs)

3.2 Threats to Conservation Targets

The term 'threat' is used to describe the various factors that immediately affect the ecological integrity of target habitats, which in this case include upland prairie, wetland prairie, savanna, oak woodland, riparian forest, riparian shrub, and shrub. Primary threats to the site's Conservation Values include invasive plant species in all target habitats; conifer encroachment in oak woodland, savannas, and prairies; encroachment of woody vegetation into prairies and savanna; improper management of livestock in prairies and oak woodland; and long-term cessation of fire in prairie, savanna, and oak woodland habitats. Non-native wildlife species known to inhabit the site including turkey, European starling, house sparrow, and bullfrog are not currently thought to be a significant threat to the site's conservation values, but should be monitored along with other potential non-native species that could expand onto the site in the future.

Table 3-4: Summary of Current Threats to Conservation Values

Site-Specific Threats		Upland/ Wetland Prairie	Savanna	Oak woodland	Riparian Forest/ Shrub	Shrub	Forest -conifer -oak-fir -fir-oak -mixed
3.2.1	*Non-native invasive plant species*	Very High	Very High	Medium	High	Very High	High
3.2.2	*Conifer encroachment*	High	Very High	Very High	-	High	High
3.2.3	*Woody vegetation encroachment*	High	Very High	Medium	Medium	Medium	Medium
3.2.4	*Improper management of livestock*	Very High	Low	High	Very High	High	Low
3.2.5	*Altered fire regime*	High	High	Medium	-	-	Medium

3.2.1 Non-native invasive plant species

Long-term site disturbances including agricultural and logging practices, grazing, and natural events like flooding and wildlife interactions have contributed to the fact that many of the site's habitats are dominated by non-native and often invasive plant species. Botanical surveys conducted between 2007 and 2013 have documented the site's vegetation and noted the presence of extensive non-native cover including trees, shrubs, grasses and forbs. In general, the prairie areas are dominated by a variety of non-native pasture grasses. Many of the riparian corridors, woodlands, and forest edges contain dense concentrations of Himalayan blackberry (*Rubus armeniacus*). Highly invasive false brome (*Brachypodium sylvaticum*) is well established within the forested areas of the site, where it is often found in dense stands. Lemon balm (*Melissa officinalis*) is establishing along the trail in the forested area and pennyroyal (*Mentha pulegium*) is common in the wetter prairie areas. English ivy (*Hedera helix*), meadow knapweed (*Centaurea pratensis*), white poplar (*populus alba*), Scotch broom (*Cytisus scoparius*), vinca (*Vinca minor*), and Italian lords-and-ladies (*Arum italicum*) are all present on the site in small quantities, but have potential to spread rapidly if not controlled. Other common invasive species present on the site Canada thistle (*Cirsium arvense*), teasel (*Dipsacus fullonum*), narrowleaf plantain (*Plantago lanceolata*), St. John's wort (*Hypericum perforatum*), and cutleaf geranium (*Geranium dissectum*).

3.2.2 Conifer Encroachment

Conifers, which are well established in the forested areas in the upper elevations of the site, are spreading into woodland, savanna, and prairie edge habitats where they are shading understory grasses and forbs and overtopping oaks. The oaks will ultimately decline and die as shading becomes more intense. The most common conifers present include Douglas-fir (*Pseudotsuga menziesii*) and grand fir (*Abies grandis*). Overcrowding is an issue in the conifer forest as well, where young Douglas-fir and grand fir are becoming a threat to the health of the legacy old growth trees in that area.

3.2.3 Woody Vegetation Encroachment

In addition to the conifers mentioned above, the spread of other native and non-native woody vegetation is a significant threat to the prairie and savanna communities of the site. Woody vegetation will rapidly invade prairie and savanna habitats of the Willamette Valley in the absence of regular disturbances such as grazing, mowing, haying, or burning. Highly invasive non-native trees and shrubs such as oneseed hawthorn (*Crataegus monogyna*) and Himalayan blackberry (*Rubus armeniacus*) are now common throughout the riparian, shrub, and woodland habitats across the site and could readily spread into the savanna and prairie areas. Woody vegetation will displace native grasses and forbs over time as well as grassland dependent wildlife species such as western meadowlark, chipping sparrow, short-eared owl, Oregon vesper sparrow, and Fender's blue butterfly, that are dependent on open grassland habitats. As noted in the Forest Stewardship Plan, high oak densities in some of the woodland areas are impacting legacy oaks and preventing understory development.

3.2.4 Improper Management of Livestock

Virtually all vegetation communities at BHF have been impacted to some degree by decades of livestock grazing. Negative impacts have typically been associated with overgrazing or improperly timed grazing and include trampling of vegetation (including rare plant populations), transport of weed seed, direct impacts to native wildlife such as ground-nesting birds, and churning and pugging of soil in wet areas. Soil disturbance increases opportunities for weed invasion, especially in the absence of regular overseeding of desirable species. Grazing can also result in water quality impacts due to increased erosion, streambank collapse, sedimentation, and animal waste inputs. Impacts are often concentrated near barns, creeks, springs, and other feeding and watering areas.

3.2.5 Altered Fire Regime

Prairies, savannas, and oak woodlands are fundamentally fire dependent systems and their distribution, structure, and composition in the pre-settlement Willamette Valley was substantially determined by frequent fires. Absence of regular fires in these systems can result in encroachment of woody vegetation and thatch build-up. Fire has not been

used as a management tool at Bald Hill Farm for an extended period of time. Overcrowding of forested areas by young conifers, particularly grand fir, has caused an increased wildfire risk in those areas.

3.3 Other Issues, Assets, and Opportunities

3.3.1 Habitat

Assets and Opportunities:

- The site contains a diverse mosaic of vegetation communities.
- The site is proximate to several other permanently protected natural areas that contain similar high value vegetation communities such as prairie, savanna, riparian, and woodland.
- The presence of established Fender's blue butterfly populations at nearby Lupine Meadows make BHF an excellent *stepping stone* site for expanding and connecting those populations.
- Expansive areas of grassland habitat are present and largely free from woody vegetation, forming large patches of viable habitat for prairie dependent plants and wildlife such as grassland birds and butterflies.
- Stands of Oregon white oak of various age classes and densities are present across the site, forming large blocks of viable habitat for oak savanna and oak woodland dependent wildlife.
- Riparian forest containing mature trees and shrubs lines many of the creeks that flow through the site.
- As Mulkey Creek flows into the lower end of the property, it becomes more complex (with the help of beaver dams) and forms forested wetland conditions.
- Several types of invasive plant species that are problematic elsewhere in the valley such as English ivy, meadow knapweed, white poplar, Scotch broom, and vinca are present in relatively small quantities at BHF and could potentially be eradicated before they become more widely established (see 3.2.1).
- Although widespread throughout much of the forested portions of the site, false brome has not yet established within most of the isolated oak woodlands.
- Several vegetation and rare plant surveys have been conducted at BHF, establishing good baseline information and identifying locations of rare plant populations.
- Several bird surveys have been conducted at BHF, providing good baseline data.
- The site's south and west facing slopes, shallow soils, and exposed bedrock provide good habitat for reptiles.
- Controlled ecological burning may be a useful management tool for the site, especially for savanna and prairie habitats (see related issue below).
- A number of residual old growth Douglas-fir trees are located within the conifer forest located on the north facing slopes in the northwest corner of the site with significant quantities of standing snags and downed wood present (Trout Mountain Forestry).

Issues (also, see 'threats' listed in section 3.2 above):

- Many of the site's habitats are dominated by non-native and often invasive plant species, particularly in the upland and wetland prairies (see 3.2.1).
- The presence of nectar producing native forbs, on which many insects depend, is currently very limited.
- Highly invasive plant species including Himalayan blackberry, false brome, and oneseed hawthorn are well established at BHF and could continue to expand without intensive management.
- No formal surveys for mammals, reptiles, fish, amphibians, or invertebrates have been conducted at BHF.
- Exact locations of legacy oaks have not been mapped.
- Snags and downed wood are virtually absent within most of the oak woodland areas.
- The property is not ideally suited for use of prescribed fire as a management tool due to close proximity to residential areas, Willamette Valley air quality requirements, and high levels of site visitation by the public. However, prescribed fire provides an effective, low-cost management tool for native prairie and savanna habitats. To determine if fire is a suitable tool, site readiness measures would need to be taken, including developing water truck access to ridge tops, designing and clearing a network of fire trails, preparing prescribed fire prescriptions, and developing a network of fire program partners and trained volunteers (Trout Mountain Forestry).

3.3.2 Recreation, Education, and Research

Assets and Opportunities:

- The proximity of BHF to Oregon State University, the Institute for Applied Ecology, and other research-oriented organizations provides an outstanding opportunity for long-term research efforts related to restoration, invasive species control, sustainable forest management, and use of livestock as a tool for habitat management.
- A native plant nursery sited at BHF (currently being developed by GLT) has great potential to provide a supplemental source of native plant materials for restoration efforts at BHF and other nearby sites as well as providing an educational experience for volunteers.
- BHF has great potential for use as an outdoor classroom for students of all ages with opportunities for the study of native ecosystems, habitat restoration, agriculture, forestry, and water quality.
- The publicly accessible trail system provides outstanding viewpoints including sweeping vistas of the surrounding natural and agricultural landscape.
- The existing renovated house and a vacant barn could be used in the future to accommodate educational activities, public events, GLT office space, and other activities in support of the site if desired.
- The existing trail system at BHF could be expanded in the future to provide access to additional areas of interest and to create loop options. In summer of 2014, it is being expanded to provide a direct trail connection to Fitton Green.
- Segments of the site's existing road network could potentially be used to accommodate an expanded recreational trail network at limited cost.
- Neighbors and GLT supporters served as Volunteer Naturalists from May-September of 2013 and 2014, providing education and outreach to trail visitors. Future volunteer roles might include docents or interpreters to lead educational field trips, answer visitor questions, and monitor public use.
- Neighbors and GLT supporters have served as Weekend Stewards at monthly workdays to remove invasive species and assist with the native nursery since acquisition in July 2014. They could also be recruited and trained to conduct addition ongoing volunteer activities such as invasive species control, planting, and monitoring.
- The majority of the visitors to BHF stay on the designated public trail network and vandalism and illegal activities have been minimal to date.

Issues:

- Recreational users are likely contributing to the spread of invasive plant species such as false brome and lemon balm by inadvertently transporting weed seeds on their boots and bike tires as they travel across the site.
- Dogs, especially off-leash, can harass native wildlife and livestock and leave excessive amounts of waste on and adjacent to trails.
- Close to a mile of the trail system doubles as a farm road that is the main site access for vehicles. Pedestrians, dogs, equestrians and bikes share this road/trail with vehicles and heavy equipment of staff, contractors, tenant farmer, visiting researchers, and special event attendees.
- A cooperative management plan for the interconnected trail system across GLT, City, and County lands does not presently exist.
- The public parking area on Oak Creek Drive (owned by City of Corvallis), which is used by most visitors to BHF, is close to capacity on weekends and nice days.
- The site has habitat and wildlife populations to support hunting but is surrounded by residential zones and is frequently used by GLT staff, volunteers, partners, the farmers, and the public for management, maintenance, monitoring, research, education, agricultural, and recreational uses. Hunting potentially could be used to manage certain wildlife populations that harm conservation values. Given the potential for conflicts between hunting and other uses, any hunting on the property needs to be strictly controlled.
- Poachers have trespassed on the property at the northwest side to hunt deer and turkey.
- Many trail users, often neighbors or bicycle commuters, access the trail off Oak Creek Drive via a driveway shared with neighbors, which is not an official entrance.
- An expanded trail network at BHF could potentially impact neighbors if sited close to adjacent properties.
- Additional staffing and facilities may be needed in the future if public use of the site continues to increase.

- Over time, unmanaged growth of woody vegetation has potential to obscure views from the Mulkey Ridge trail and other publicly accessible areas of the site.
- Addition structures, roads, signage, or fences all have potential to take away from the user experience if not carefully sited or designed.
- There has been limited coordination between GLT, City of Corvallis, and Benton County on ecological and recreational resources. This could be expanded in the future to the benefit of each organization.

3.3.3 Hydrology

Assets and Opportunities:

- Perennial and seasonal streams are abundant across much of the site and contribute to the site's habitat values.
- None of the streams on the site appear to have been altered significantly in terms of channelization and straightening.
- Beavers are currently active on the site and have potential to provide ongoing habitat benefits.

Issues:

- Some of the waterways on the site are experiencing erosion and incision, particularly near outfalls of culverts at road crossings and where cattle have created tails in or along waterways.
- The natural sheet flow of water across the expanse of wetland prairie to the north and east of Mulkey Creek has been disrupted by the trail/road that runs across that area. The flow now passes under the road/trail through two culverts and is concentrated in those areas.
- Oak Creek has incised significantly where it crosses the BHF property and, as a result, has very steep sided banks. Because channel incision is a system-wide issue on Oak Creek, there are limited options for repairing this issue on a site scale.
- The surface hydrology found within site's wetland prairies is fairly uniform with limited areas that hold water later into the season (such as vernal pools). Vernal pools can provide hydrologic diversity and important habitat for the life cycle of amphibians.
- Existing drainage tiles located in two locations on the site are likely negatively impact wetland hydrology in those areas (additional assessment needed).
- The water right associated with Mulkey Creek must be used as at least once every five years or it could be lost.

3.3.4 Agriculture and Forestry

Assets and Opportunities:

- Appropriately managed rotational livestock grazing could provide some potential benefits for native grassland habitats including reduction of thatch and lowering vegetation height to benefit grassland bird species (Campbell 2004).
- Prescribed grazing that identifies goals for production and habitat management, potential improvements to forage, periods of grazing and rest, and monitoring can utilize grazing as a cost effective conservation tool.
- Prescribed grazing that identifies goals for production and habitat management, potential improvements to forage, periods of grazing and rest by management unit, and monitoring protocols would be a valuable tool for managing grazing as a cost effective conservation tool on the site.
- There is ample acreage of potential pasture at BHF to allow rotational grazing to occur as desired. Use of the site as a stocker (seasonal) operation could be an effective way to eliminate the need for additional infrastructure to confine animals over the winter months and could increase viable stocking rates at more desirable times of the year (Tom Snyder, NRCS).
- An on-site farmer with good knowledge of the property could be a valuable asset and partner in restoration and management of habitats, invasive species control, and prevention of erosion.
- Infrastructure necessary for cattle are currently present across much of the site including fencing, watering tanks, and feeder barns. This infrastructure is important if grazing is to be used as a conservation tool.
- The network of fences is extensive, in relatively in good conditions, and provides great flexibility for managing cattle in designated areas, especially when complemented by temporary electric fencing.

- Timber harvest in the forest and woodlands on the site could result in habitat improvements for target species if carefully planned and executed.
- Using portions of the site for agriculture and sustainable forestry could provide revenue to offset the cost of stewardship and restoration activities on the site.
- The site contains an extensive road and skid trail network, which offers good access for forest management (Trout Mountain Forestry).
- The timber on the property was evaluated in January 2014 to develop a baseline for the conservation easement and ongoing property management (Trout Mountain Forestry).
- Future timber harvest could be used to preserve and create additional viewpoints from the site.

Issues:

- Over-grazing and/or poorly timed grazing has had negative impacts on native habitats across the site including trampling of vegetation, increasing weed susceptibility, churning of soils, and possibly impacting wildlife such as ground-nesting birds.
- Employing a farm operator ready to take on the unique challenges of farming on a conservation property could require bringing livestock management in-house or hiring an operator to fulfill a contract tailored to meeting grazing plan requirements.
- The soils and vegetation used for grazing are generally nutrient poor, resulting in poor forage for livestock.
- The current fencing is designed primarily to contain cattle and may not function well for smaller livestock such as sheep and goats without improvements to the fence structure or extensive use of temporary electric fence.
- Much of perimeter fence, particularly on the west side of the property, is in poor repair and cannot be relied upon to contain livestock.
- Natural predators such as mountain lions, bobcats, and coyote could be a potential threat to smaller livestock such as sheep, goats, and chickens.
- Some of the skid trail and former logging roads are not graveled, which limits timber harvesting in some areas to the summer months (Trout Mountain Forestry).
- Because Bald Hill Farm's forested ridges are visible from much of the site, the summit of nearby Bald Hill, points along Reservoir Road, and from parts of Philomath, care should be taken during timber harvest to limit potential visual impacts.
- Timber harvested from the site would need to be hauled through residential areas along Rose Crest Drive or to Oak Creek Drive along the farm road shared with trail users. According to the Rose Wood road district Rose Crest Drive is not built to withstand heavy truck use and loaded log trucks would damage the road. Trails that share the farm road may need to be closed temporarily and trails adjacent to the road may still be subject to dust and noise.
- Grand fir, which is common within the forested area of the site as both mature and young trees, are poorly suited to dry south slopes, where many large trees have recently died due to moisture and insect stresses, contributing to increased fire hazard by creating fuel ladders (Trout Mountain Forestry).
- The conifer-hardwood forest abutting Mulkey Creek (approximately 18 acres) is very steep in places and classified by ODF as High Landslide Hazard and is therefore not well suited for timber harvest (Trout Mountain Forestry).

3.3.5 Facilities and Management Access

Assets and Opportunities:

- The house, now being renovated by GLT, has great potential for adaptive use in the future. Potential uses could include office space for GLT, housing a caretaker, serving as a rental unit, providing indoor space for educational activities, hosting meetings or events, donor activities, or providing indoor space for use by field crews.
- Maintenance equipment such as mowers, tractors, and ATVs can be safely stored, maintained, and accessed on site in existing buildings.
- The network of graveled roads provides all-season access to key points across the property.

- The roadway that runs across the northern section of the site would function well as a firebreak for controlled ecological burns or wildfires and would provide good access for firefighting equipment if needed.
- Most of the oak woodlands contain widely-spaces centuries-old “veterans” within a matrix of dense younger oaks (50 to 80+ years old), suggesting that these woodlands were once open savanna. Thinning the younger oaks in these areas presents an opportunity to preserve these older heritage trees and restoring savanna conditions (Trout Mountain Forestry).
- Three separate entries allow ease of access to the property.

Issues:

- All existing structures, roads, trails, fences, culverts, bridges, wells, and other facilities will require ongoing maintenance.
- The access road that enters from the Rosecrest Neighborhood may have limited uses because of neighborhood concerns related to traffic from the farm and road damage from farm or maintenance vehicles.
- The access road that enters from Oak Creek Drive also serves as a trail and creates liabilities related to traffic on the road and trail users.
- The two bridges supporting automotive traffic are of unknown age, lack siderails, and may require retrofits for continued safe use.
- Currently access roads are gated with locks when staff and farm operator are offsite. However the facilities and equipment on the farm are not entirely safe from outside access and potential vandalism/theft if the gates are breached or left unlocked.
- Storage of equipment onsite increases potential for introduction/spread of invasive species between Bald Hill Farm and other sites if equipment is not properly cleaned.
- Both barns located near Mulkey Creek are in poor condition and will require significant renovation if they are to be retained.
- Grasses develop a flammable thatch over time, and in the late summer, when the season’s growing grasses go to seed and cure, these fuels are highly flammable. Grass fires can ignite very easily, can move very quickly, and can spread into adjacent forest canopies if fuel ladders are present (Trout Mountain Forestry).
- Exotic blackberries can be highly flammable, especially after several years of built-up dead canes and can contribute to wildfire risk.
- Tall grass on the dirt road running along the southern edge of the forested area could pose a fire hazard in the summer months if used by vehicles if not mowed.
- There are too few “pump chances” on the property — ponds to provide fight fire-fighting water sources during the dry summer months, or streams with adequate summer flow to provide adequate water to fight wildfires (Trout Mountain Forestry).

Section 4: Desired Future Conditions

The Desired Future Conditions (DFCs) presented below describe characteristics of the site through the end of the term of the management plan (2034). DFCs provide general standards that can be used to benchmark progress toward achieving restoration goals and objectives and meeting the needs of target species. DFCs should be referenced when developing area specific restoration projects and prescriptions to ensure consistency with the site's Conservation Values and long-term vision (see Section 1.5). DFCs are intended to be used as guidelines and should be applied with flexibility within an adaptive management framework (see Section 5.2). The DFCs presented below correspond to management objectives and actions listed in Section 5.0 and are organized into the following categories:

- Target Habitats
- Other Significant Habitats
- Agricultural Uses
- Recreation, Education, and Stewardship
- Facilities and Access

4.1 Desired Future Condition: Vegetation Communities

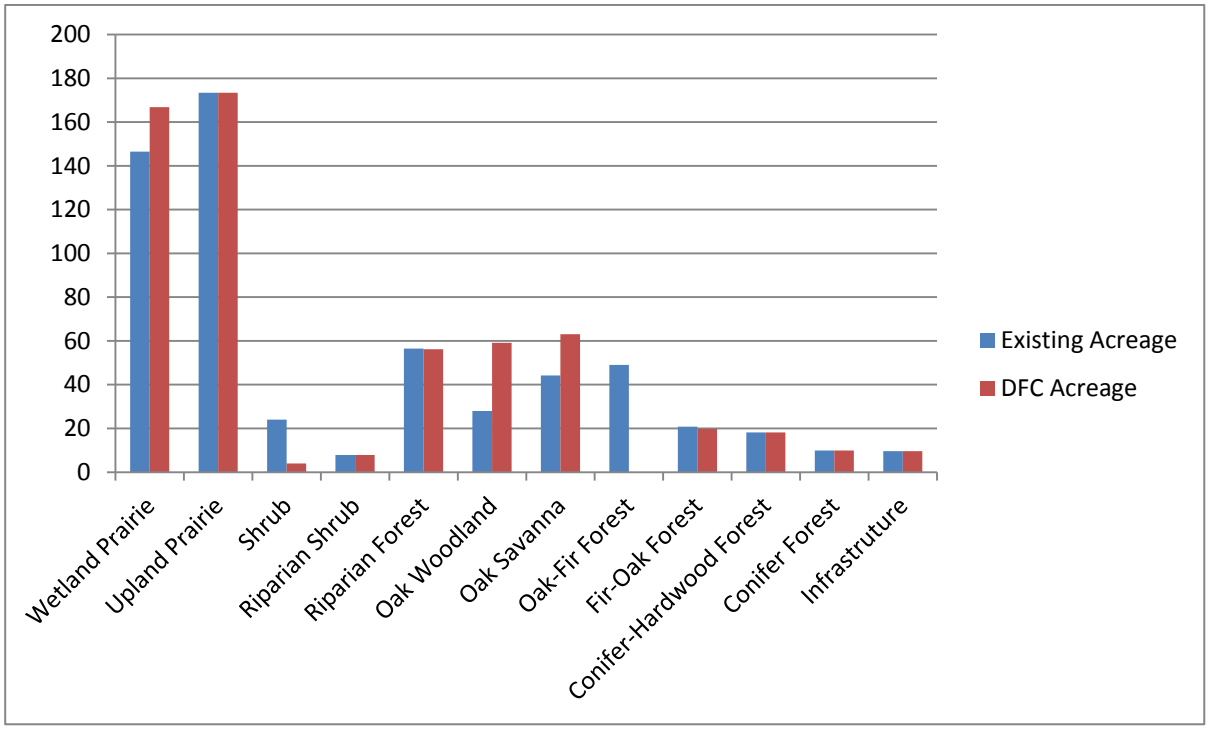
The site will be managed to maintain a mosaic of vegetation communities, with priority given to preserving, expanding, and enhancing target habitats and associated target plant and wildlife species (see Table 3-1). The following table describes the DFCs for each vegetation community found on Bald Hill Farm.

Table 4-1: Desired Future Conditions of Vegetation Communities

Habitat Type	Desired Future Conditions
Target Habitats (Vegetation Communities)	
Upland Prairie **Size: 173.4 acres** -See Objectives 1a, 1b, and 1c.	Upland prairies will be maintained in an open condition with limited woody vegetation present with the exception of small patches of native shrubs and isolated trees and standing snags and managed for the benefit of grassland dependent birds such as western meadowlark, western bluebird, northern harrier, short-eared owl, and Oregon vesper sparrow. A combination of carefully timed mowing, haying, ecological burns, and/or targeted grazing will be used to help maintain this open condition. Native grass and forb cover will be increased throughout the system over time. Priority will be given to areas being managed specifically for Fender's blue butterfly and Taylor's checkerspot, with significant population of Kindcaid's lupine and other nectar producing forbs established in those areas. Additionally, populations of existing rare plants including Willamette daisy and thinleaf pea will be protected and expanded while other rare plants such as golden paintbrush will be introduced over time.
Wetland Prairie **Size: 166.8 acres** (increased by 20.3 acres through conversion of shrub habitat) -See Objectives 1d, 1e, and 2b.	Wetland prairies will be maintained in an open condition with limited woody vegetation present with the exception of small patches of native shrubs and isolated trees and standing snags and managed for the benefit of grassland dependent birds such as Western meadowlark, western bluebird, northern harrier, short-eared owl, and Oregon vesper sparrow. A combination of carefully timed mowing, haying, ecological burns, and/or targeted grazing will be used to help maintain this open condition. Native grass and forb cover will be increased throughout the system over time, with priority given to several designated high quality wetland prairie patches where native cover and diversity will be maximized. Within those high priority patches, greater hydrologic diversity will be established through the integration of several vernal pools that will be designed to hold water later into the spring, promote greater plant diversity, and provide habitat conditions for amphibians such as northern red-legged frog. Additionally, populations of existing rare plants including Nelson's checkermallow and Willamette daisy will be protected and expanded, while other rare wetland prairie dependent species such as Bradshaw's lomatium will be introduced over time. 24 acres of shrub habitat will be converted to wetland prairie through tree and shrub removal.
Oak Savanna	Oak savanna will be maintained in an open condition with widely scattered oaks and a grass and forb dominated understory with the native composition increasing over time. Encroaching trees

Habitat Type	Desired Future Conditions
Size: 63.1 acres (increased by 18.6 acres with conversion of oak-fir forest, fir-oak forest, and oak woodland -See Objective 1f	and shrubs will be controlled and non-native invasive trees and shrubs such as blackberry and hawthorn will be eradicated from this area. The open structure will be maintained through periodic mowing and/or ecological burns.
Oak Woodland **Size: 59.1 acres** (increased by 31.1 acres with conversion of oak-fir forest) -See Objectives 1g and 2a	Oak woodland will be maintained to limit non-oak tree encroachment and thinned where needed to achieve healthier tree densities and preserve legacy oaks. Non-native invasive shrubs and trees including blackberry, hawthorn, and Scotch broom will be eradicated from this area and native understory will be enhanced over time. An additional 49 acres of oak-fir habitat will be converted to oak woodland through a commercial timber harvest which will remove conifers and other non-oak tree species and the oak woodland understory will be enhanced over time.
Riparian Forest and Riparian Shrub **Size: 64.4 acres** (will remain approx. the same with some riparian planting and some thinning for habitat) -See Objective 1h	Riparian forest will be preserved along stream corridors and managed to control non-native invasive species including blackberry, hawthorn, reed canarygrass, and false brome. Small populations of white poplar and English ivy will be eradicated. Riparian shrub habitat will be allowed to continue to transition to riparian forest over time to provide additional habitat benefit and water quality protection, where it does not impede connectivity between prairie habitats and riparian trees and shrubs will be planted in areas along portions of Oak Creek and Mulkey Creek where riparian forest is limited. In some areas, riparian forest and shrub may be reduced in stature and maintained as low shrubs to help maintain connectivity between prairies habitats and to facilitate movement of butterflies and other prairie dependent species.
Aquatic **Size: 7,300 lf** -See Objective 1i	The aquatic habitat along lower Mulkey Creek and Oak Creek will be managed to benefit native aquatic wildlife species. Habitat enhancements will be based on more detailed monitoring of these waterways. These aquatic areas could potentially provide habitat for western pond turtle, Chinook salmon, cutthroat trout, and Northern red-legged frog.
Other Significant Habitats (Vegetation Communities)	
Conifer Forest **Size: 10 acres** -See Objective 3a	The conifer forest will be managed to reduce overcrowding, through multi-age commercial timber harvest, with retention of legacy old growth Douglas-fir and invasive species such as false brome will be controlled.
Conifer-Hardwood Forest **Size: 18 acres** -See Objective 3b	The diverse conifer-hardwood forest will be preserved for aesthetic values, recreational use, wildlife habitat, and protection of the steep slopes above Mulkey Creek and invasive species such as false brome will be controlled to prevent its spread, especially along trail corridors.
Fir-Oak Forest **Size: 19.8 acres** (Approx. 1 acre converted to savanna) -See Objective 3c	The fir-oak forest will be managed through extended rotational commercial timber harvest to promote Douglas-fir growth and release of viable legacy oaks. Non-native invasive species such as false brome, English holly, and oneseed hawthorn will be controlled.
Oak-Fir Forest **Size: 0 acres** See Objective 2a	The existing 49 acres of oak-fir forest will be converted to oak woodland through commercial timber harvest.

Figure 4-2: Change in Vegetation Communities from Existing to Desired Future Condition



4.2 Desired Future Condition: Agricultural Uses (see Objectives 5a and 5b)

Agricultural practices that support the management and restoration of native habitats will be showcased at BHF. The use of grazing as a tool for habitat management will be implemented on a trial basis and carefully monitored. A native plant nursery has been established to provide a supplemental source of locally sourced native plant materials for restoration efforts on BHF and other nearby sites.

Grazing: Grazing of cattle will continue to be an important management tool and agricultural activity at Bald Hill Farm and will be guided by a grazing plan, with adaptive management based on the results of ongoing experimentation and monitoring. To sustain a base herd of livestock as a feasible business option, a designated area of pasture, approximately 80-120 acres in size, will be maintained within the upland prairie portion of the site (within the agricultural and building zones identified in the BPA easement) and improved for productivity and forage. Livestock will be moved from the central pasture and into other prairie and savanna areas as desired to benefit habitat within those areas and to provide supplemental forage. Outside of the designated central pasture, habitat management considerations will dictate grazing schedules (timing, quantities, duration, and livestock types). Appropriately prescribed grazing is intended to have some potential benefits for native grassland habitats and can be used to reduce non-native grasses, release forbs, reduce thatch, alter vegetation structure (lowering grass height to benefit certain grassland bird species or reducing encroaching woody plants), and integrate planted seed into the soil. Grazing can also be used to reduce fire risk by keeping pasture heights low during fire season and to maintain vegetation along fences that would otherwise require mowing. Grazing should also reduce maintenance costs of mowing and generate income to support stewardship of BHF. Careful study of the effects of grazing at BHF will provide valuable information for other land managers throughout the Willamette Valley and demonstrate the use of sustainable grazing practices.

Native Plant Nursery: To support restoration activities at BHF and on other nearby sites, a native plant nursery has been established by GLT to provide locally sourced native plant materials. The native plant nursery may eventually include production of native seed, plugs, trees, and shrubs for use in restoration efforts on and near Bald Hill Farm.

The nursery will be sited within the designated agricultural or building zone nearest the house and the Mulkey Creek water rights and could be staffed by trained volunteers and may eventually include grow-out beds, greenhouses, and seed cleaning and storage facilities.

4.3 Desired Future Condition: Recreation, Education, and Stewardship (see Objectives 5a-5d)

Bald Hill Farm will continue to be a valuable recreational and educational resource for the community and public access to the site will continue to be allowed by foot, bike, or horseback on the existing network of trails, with future expansion possible.

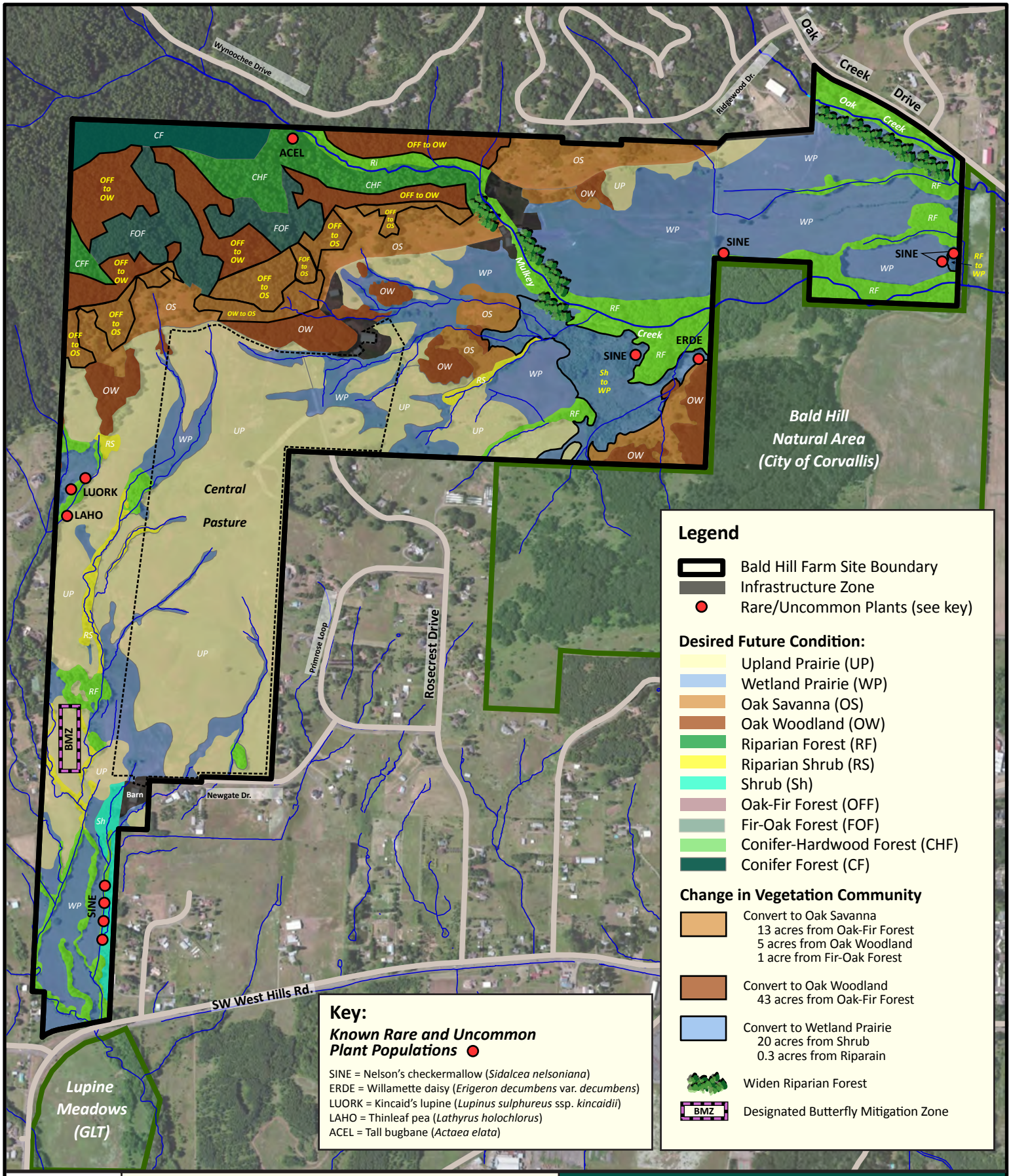
Recreation: The existing trail system, which passes through a variety of diverse habitats and offers views to the surrounding landscape, will be maintained in its current location in the short term. Trail segments along Oak Creek and those that share roadways with vehicles will be evaluated for possible relocation to locations that don't impact the riparian zone and don't conflict with vehicles. Over time, the trail network will be expanded to provide better connections to other nearby natural areas such as Fitton Green and Bald Hill Natural Area and additional loop options may be developed, providing a more interesting user experience and access to additional habitats. New trails will be carefully planned to limit impacts to sensitive areas, site aesthetics, and neighboring property owners. Recreational uses will be passive and include activities such as wildlife viewing, photography, nature study, walking and running for pleasure, bicycling, horseback riding, and picnicking.

Education: Bald Hill Farm will continue to serve as an outstanding educational resource for the community. Educational institutions such as the Corvallis and Philomath Public Schools, Oregon State University, Linn-Benton Community College, Institute for Applied Ecology, and Marys River Watershed Council will be able to use BHF for the study of native habitats, restoration techniques, and sustainable agriculture. Formal curriculum and interpretive signage will be developed over time.

Community Stewardship: GLT will actively promote opportunities for community members to participate in management, restoration, and monitoring activities at BHF as a way of promoting stewardship and increasing GLTs capacity to manage the property. Volunteers will be trained to perform specific ongoing tasks such as wildlife monitoring, native plant nursery functions, trail maintenance, or invasive species control and could also participate in one-time events. Neighbors and regular visitors to BHF could be trained to help monitor public use and report wildlife sightings and natural resource issues.

4.4 Desired Future Condition: Facilities and Access (see Objectives 6a-6e)

Facilities such as out-buildings, roads, and fences will be maintained to support the ongoing management activities at Bald Hill Farm. The infrastructure currently in place will be adequate to support the management and restoration activities planned over the short term. GLT will periodically reassess facilities to determine if there is a need to upgrade or opportunities to remove any substandard facilities. GLT's focus will be on regular maintenance of existing roads and buildings with some upgrades to the fencing in the central pasture area likely. Code compliance upgrades and basic maintenance tasks such as roofing have already been completed on the house. A native plant nursery has been established in the designated agricultural zone near the house and will provide locally sourced native plant materials for use in restoration projects at BHF and other nearby natural areas.



Legend

- Bald Hill Farm Site Boundary
- Infrastructure Zone
- Rare/Uncommon Plants (see key)

Desired Future Condition:

- Upland Prairie (UP)
- Wetland Prairie (WP)
- Oak Savanna (OS)
- Oak Woodland (OW)
- Riparian Forest (RF)
- Riparian Shrub (RS)
- Shrub (Sh)
- Oak-Fir Forest (OFF)
- Fir-Oak Forest (FOF)
- Conifer-Hardwood Forest (CHF)
- Conifer Forest (CF)

Change in Vegetation Community

Convert to Oak Savanna
- 13 acres from Oak-Fir Forest
- 5 acres from Oak Woodland
- 1 acre from Fir-Oak Forest

Convert to Oak Woodland
- 43 acres from Oak-Fir Forest

Convert to Wetland Prairie
- 20 acres from Shrub
- 0.3 acres from Riparain

Widen Riparian Forest

BMZ — Designated Butterfly Mitigation Zone

Key:

Known Rare and Uncommon Plant Populations

SINE = Nelson's checkermallow (*Sidalcea nelsoniana*)
ERDE = Willamette daisy (*Erigeron decumbens* var. *decumbens*)
LUORK = Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*)
LAHO = Thinleaf pea (*Lathyrus holochlorus*)
ACEL = Tall bugbane (*Actaea elata*)

greenbelt land trust

N W E S

November 2014

Map-10

Map produced by JKE

Bald Hill Farm Management Plan

Desired Future Condition Map

Section 5: Goals, Objectives, and Management Actions

5.1 Overview and Organization

The purpose of this section is to provide direction for the short- and long-term management and enhancement of the habitats and facilities at Bald Hill Farm in a manner that is consistent with the Conservation Values that were defined in the OWEB and BPA Conservation Easements as well as the USFWS MOA related to Fender's blue butterfly and Kincaid's lupine habitat and the USFWS Notice of Grant Agreement. The goals, objectives, and actions are also responsive to the conservation priorities, issues, and opportunities identified in Section 3 and will guide management of the site toward the Desired Future Conditions (DCFs) that are described in Section 4.

Goals: Management goals are broad statements which reflect the transition from the site's current condition to its desired future condition. Goal categories include:

- Preservation, Management, and Enhancement of Target Habitats
- Restoration of Target Habitats
- Managing Forest Habitats
- General Habitat Management and Enhancement
- Agricultural Practices and Activities
- Recreation, Education, and Stewardship
- Facilities and Access
- Monitoring, Mapping, and Research

Objectives: Each management goal includes a set of supporting objectives which direct implementation of specific site activities over the next twenty years (2014-2034).

Actions: Each objective includes a set of recommended actions that specify how the objective will be achieved. Each action is prioritized to assist in management timing and implementation. Actions and priorities may change over time based on input from the adaptive management process, funding availability, and emerging threats.

5.2 Adaptive Management Approach

The Greenbelt Land Trust will use an adaptive management approach at Bald Hill Farm. Under this approach, major management actions will be evaluated as implementation occurs and future actions and priorities may be adjusted accordingly to improve future success. To successfully use the adaptive management approach, pre- and post- project conditions will be recorded, and techniques and geographic extent of major enhancement and restoration activities will be carefully documented. The management objectives and actions described on the following pages will be evaluated as implementation occurs and may be adjusted accordingly.

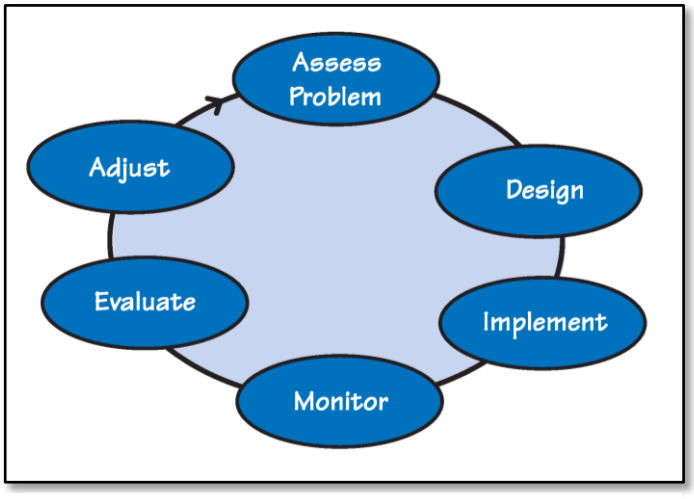


Figure 5-1: Adaptive Management Diagram

5.3 Prioritization of Actions

The prioritization categories listed below are intended to guide implementation sequencing for proposed management actions based on the need for immediate action versus actions which could occur in the longer-term.

Prioritization Categories

The following categories have been selected to indicate overall implementation priorities:

I	Short Range (highest priority): Will be undertaken as soon as possible (1-5 years).
II	Medium Range: Less pressing, implemented when funding is available (6-10 years).
III	Long Range: Will be implemented over a longer period of time due to the complexity or cost of the task or is dependent on other actions being completed first (11-20 years).
RM	Regular Management: Management or maintenance activity performed on an annual or bi-annual basis.
O	Ongoing: A regularly occurring or ongoing activity
Vol	Volunteer Opportunity: Activity that could be undertaken by volunteers (with adequate coordination)

5.4 Bald Hill Farm Management Goals

Each of the eight goals listed below has a set of detailed Objectives and Actions listed in Section 5.5.

Goal 1: Preservation, Management, and Enhancement of Existing Target Habitats and Species

Preserve, manage, and enhance target habitats at Bald Hill Farm to benefit target native wildlife species and to support public appreciation and learning. Target habitats at BHF include upland prairie, wetland prairie, oak woodland, oak savanna, riparian forest and shrub, and aquatic. [Note: 'Target' habitats and 'Nested Target Species' are those that have either been identified in the Oregon Conservation Strategy (ODFW 2006) as high priority *Strategy Habitats* and/or as *Conservation Value* habitats within the BPA and OWEB Conservation Easements for BHF.]

Goal 2: Restoration of Target Habitats (converting non-target vegetation communities to target habitats)

Convert non-target vegetation communities to target habitats where feasible through thinning and removal of woody vegetation, invasive species control, and vegetative enhancements.

Goal 3: Managing Forest Habitats

Manage the site's 49 acres of conifer forest, mixed forest, and fir-oak forest to promote forest resiliency, provide habitat for native wildlife, protect headwater streams, and maintain visual quality. [Note: Forest habitats are not considered 'targets' under the Oregon Conservation Strategy, but are still important from an overall site management and diversity perspective at BHF.]

Goal 4: General Habitat Management and Enhancement

Provide additional habitat features and species specific management actions to benefit native wildlife where appropriate across the site (in addition to objectives and actions proposed in Goals 1, 2, and 3).

Goal 5: Agricultural Practices and Activities

Accommodate agricultural practices at BHF that support the management and restoration of native habitats, provide research opportunities for testing various approaches for using rotational grazing as a tool for conservation, produce native plant material for restoration, and showcases sustainable agricultural practices.

Goal 6: Recreation, Education, and Stewardship

Provide opportunities for the public to access and enjoy the diverse landscape of Bald Hill Farm, to engage in organized and individual education and recreation, and to connect to various management components of the

Goal 7: Facilities and Access

Provide and maintain adequate site access and facilities to support the ongoing maintenance and management of the Bald Hill Farm property.

Goal 8: Monitoring and Mapping
Provide adequate baseline and post project data on site vegetation, wildlife, and hydrology to inform management decisions, track change over time, and meet funder's monitoring requirements while using BHF as a site for ongoing research related to habitat management and restoration approaches.

Goal 9: Partnerships and Collaboration
Pursue and maintain partnerships with local, state, federal, and non-profit organizations as a way of collaborating on habitat restoration, management, education, recreation, funding, and sharing of resources.

5.5 Management Objectives and Prioritized Actions

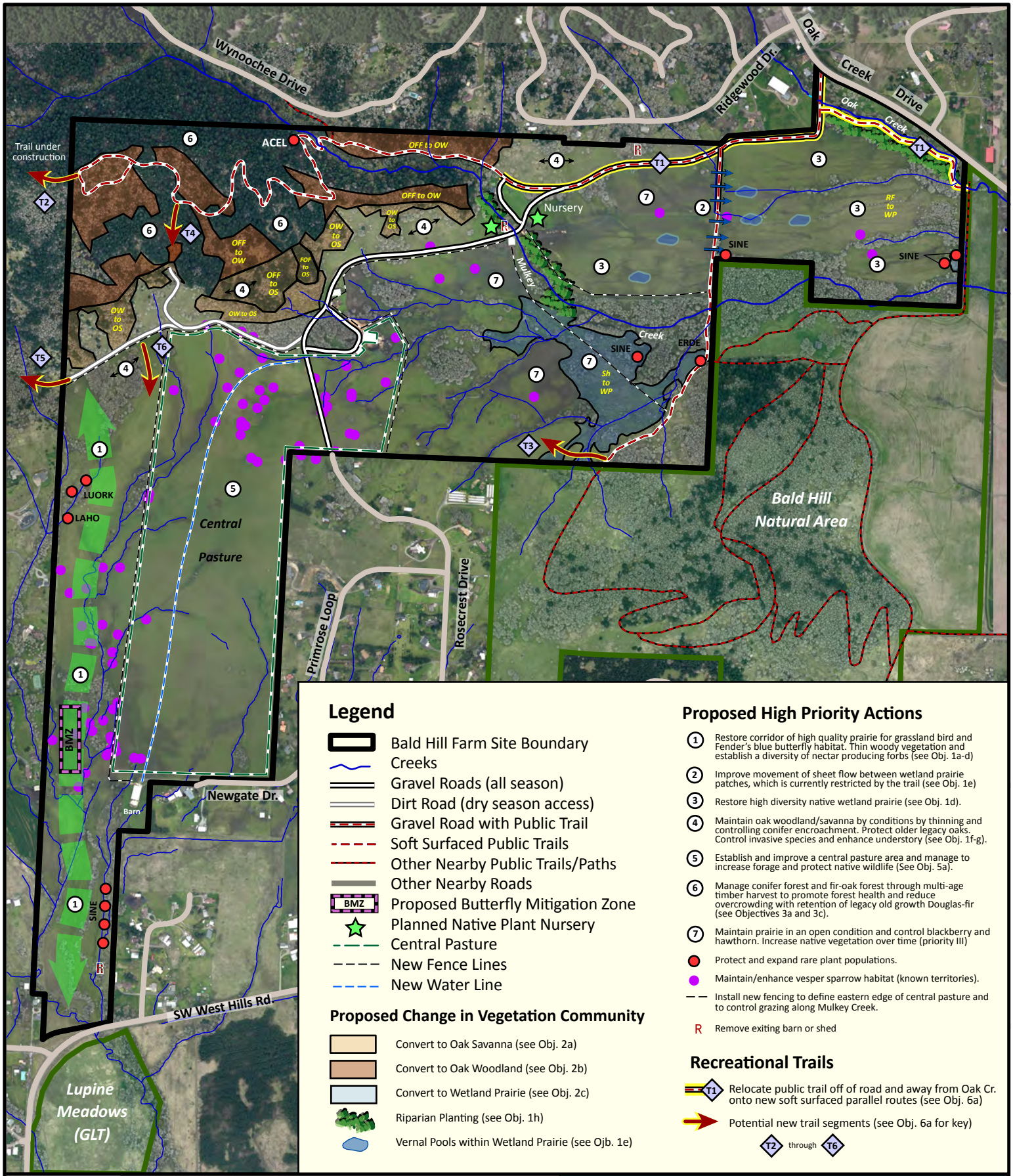
Under GLT's adaptive management approach (see Section 5.2), all management actions will be evaluated as implementation occurs and future actions and priorities may be adjusted accordingly to improve future success and address emerging threats or opportunities. The geographic extent and location of many of the objectives and actions below are reflected on the *Desired Future Conditions* and *Action Plan Maps*.

Goal 1: Preservation, Management, and Enhancement of Existing Target Habitats and Species
Preserve, manage, and enhance target habitats at Bald Hill Farm to benefit target native wildlife species and to support public appreciation and learning. Target habitats include upland prairie, wetland prairie, oak woodland, oak savanna, riparian forest and shrub, and aquatic.

Objective 1a. Prairie Structure: Maintain 320 acres of upland and wetland prairie at BHF in an open condition with limited woody vegetation present with the exception of small patches of native shrubs and isolated trees and standing snags to benefit prairie dependent wildlife species such as western meadowlark, northern harrier, Oregon vesper sparrow, and western bluebird.

- Action: **[RM]** Control woody vegetation encroachment into the prairie areas through periodic rough-mowing, haying, or grazing. Woody vegetation should make up less than 5-10 percent of the total cover of a prairie patch. Management actions will primarily occur in late summer or fall, to avoid impact to ground nesting birds. In some situations, spot mowing may occur earlier in the season, but care will be taken to avoid nest sites. Frequency of management actions will be dependent on site conditions, but would likely occur once every 1-3 years. Where feasible, *phase mowing* over multiple weeks will be used to minimize overall wildlife impacts. Optimal mowing deck height is 5-6" if feasible with available equipment. Grazing may be used as a management tool on a trial basis, with timing, location, rotation schedule, and paddock size adjusted to minimize impact to ground-nesting birds.
- Action: **[RM]** Where feasible, implement ecological burns on a 3 to 5 year cycle as an alternative to mowing, haying, and grazing to control woody vegetation and reduce thatch buildup. Overseeding with native grasses and forbs is recommended immediately following the burn or overseeding with forage species in the designated central pasture area.
- Action: **[II]** Eradicate non-native invasive woody vegetation including blackberry and oneseed hawthorn from the interior areas of prairies through targeted mowing and spot herbicide application. Control non-native invasive woody vegetation along the perimeters of the prairies at or below current levels to prevent it spread to the interior areas.
- Action: **[I]** Remove, thin, or prune lower branches of woody vegetation from some of the smaller waterways that bisect the prairie areas as a way of increasing overall prairie patch size and create viable patch size and facilitate movement of prairie dependent wildlife species such as Fender's blue butterfly, Oregon vesper sparrow, and western meadowlark (see *Action Plan Map* for locations).

Objective 1b. Upland Prairie Vegetation: Maintain suitable nesting and breeding habitat for Oregon vesper sparrows while increasing native vegetation throughout the upland prairie over time (with the exception of the designated central pasture area), restore high diversity upland prairie in the corridor along the western edge of the site on and around the Butterfly Management Zone, and protect and expand existing rare plant populations.



Legend

- Bald Hill Farm Site Boundary
- Creeks
- Gravel Roads (all season)
- Dirt Road (dry season access)
- Gravel Road with Public Trail
- Soft Surfaced Public Trails
- Other Nearby Public Trails/Paths
- Other Nearby Roads
- BMZ — Proposed Butterfly Mitigation Zone
- Planned Native Plant Nursery
- Central Pasture
- New Fence Lines
- New Water Line

Proposed Change in Vegetation Community

- Convert to Oak Savanna (see Obj. 2a)
- Convert to Oak Woodland (see Obj. 2b)
- Convert to Wetland Prairie (see Obj. 2c)
- Riparian Planting (see Obj. 1h)
- Vernal Pools within Wetland Prairie (see Ojb. 1e)

Proposed High Priority Actions

1. Restore corridor of high quality prairie for grassland bird and Fender's blue butterfly habitat. Thin woody vegetation and establish a diversity of nectar producing forbs (see Obj. 1a-d)
2. Improve movement of sheet flow between wetland prairie patches, which is currently restricted by the trail (see Obj. 1e)
3. Restore high diversity native wetland prairie (see Obj. 1d).
4. Maintain oak woodland/savanna by conditions by thinning and controlling conifer encroachment. Protect older legacy oaks. Control invasive species and enhance understory (see Obj. 1f-g).
5. Establish and improve a central pasture area and manage to increase forage and protect native wildlife (See Obj. 5a).
6. Manage conifer forest and fir-oak forest through multi-age timber harvest to promote forest health and reduce overcrowding with retention of legacy old growth Douglas-fir (see Objectives 3a and 3c).
7. Maintain prairie in an open condition and control blackberry and hawthorn. Increase native vegetation over time (priority III)

- Protect and expand rare plant populations.
- Maintain/enhance vesper sparrow habitat (known territories).
- Install new fencing to define eastern edge of central pasture and to control grazing along Mulkey Creek.
- R — Remove exiting barn or shed

Recreational Trails

- T1 — Relocate public trail off of road and away from Oak Cr. onto new soft surfaced parallel routes (see Obj. 6a)
- Potential new trail segments (see Obj. 6a for key)
  - T2 through T6

greenbelt land trust

0 500 1,000 feet

Scale

= One Acre

N W E S

November 2014

Map-11

Map produced by JKE

Bald Hill Farm Management Plan

Action Plan Map

- Action: **[O, RM, I]** Provide short to mid height prairie structure with occasional shrubs or adjacent to forest-shrub edges suitable for nesting and breeding Oregon vesper sparrows. Improve diversity of native prairie plants to increase insect diversity and abundance as vesper sparrow forage. Gradually implement habitat enhancements to avoid displacing a large proportion of nesting vesper sparrows in any one year.
- Action: **[II-III]** Increase native grass and forb cover throughout the upland prairie over time with the exception of the central pasture area (see Objective 5a). This can be achieved through gradual reduction of highly competitive non-native pasture grasses such as creeping bentgrass, dogtail grass, Kentucky bluegrass, and tall fescue over time and through implementation of periodic ecological burns and herbicide applications that are followed by overseeding of native species.
- Action: **[I-II]** Restore high diversity native upland prairie on approximately 40 acres within the 5,000-foot corridor along the western edge of the site including the 2 acres within the designated Butterfly Mitigation Zone (See Objective 1c.).
- Action: **[I-III, RM, Vol]** Control invasive vegetation throughout the upland prairie including Himalayan blackberry, Scotch broom, oneseed hawthorn, Meadow knapweed (one small population-priority I), and vinca (one small population-priority I).
- Action: **[RM]** Control more widespread non-native invasive vegetation including Canada thistle, St. John's wort, and false brome, with highest priority given to control in restored high quality prairie areas.
- Action: **[I-II, O]** Preserve and expand existing populations of target upland prairie plant species including Willamette daisy, Kincaid's lupine, and thinleaf pea and establish stable populations of golden paintbrush (currently not present on site).

Objective 1c. Butterfly Mitigation Zone and Adjacent Prairie: Designate, restore, and manage a core Butterfly Mitigation Area (see Section 1.7) of 2 acres for Fender's blue butterfly and Taylor's checkerspot butterfly habitat within the upland prairie on the western edge of the site (See *Action Plan Map* for location). In conjunction with this 2-acre core mitigation project, establish high quality prairie habitat in a 5,000-foot corridor along the western edge of the site covering approximately 80 acres. This corridor will provide habitat conditions for establishment of viable populations of butterflies over time and will serve to bolster and connect the existing Fender's blue butterfly populations at nearby Lupine Meadows and butterfly habitat at Fitton Green.

- Action: **[I]** Designate a 2.0-acre core Butterfly Mitigation Zone (see *Action Plan Map*).
- Action: **[I, RM]** Eradicate non-native invasive woody vegetation from within the designated Butterfly Mitigation Zone including Himalayan blackberry and oneseed hawthorn and control throughout the surrounding prairie areas through cutting, mowing, spraying, haying, carefully timed grazing, and burning as specified in Objective 1a.
- Action: **[I, O]** Control non-native invasive vegetation and reduce non-native grass cover within the Butterfly Mitigation Zone and surrounding prairie to help promote establishment of native bunch grasses and nectar producing forbs.
- Action: **[I-II]** Establish a stable population of Kindcaid's lupine, the larval host plant for the Fender's blue butterfly within the designated Butterfly Mitigation Zone and surrounding upland prairie. Alternative host plants could include sickle-keeled lupine (*Lupinus albicaulis*) and spur lupine (*Lupinus arbustus*) (Benton County Prairie Species Habitat Conservation Plan. 2010).
- Action: **[I, RM]** Preserve and expand the existing population of Kincaid's lupine at BHF, located to the north of the Butterfly Mitigation Zone. Management actions would likely include removal of nearby woody vegetation and reduction of competitive non-native perennial grasses.
- Action: **[I-II]** Establish populations of native paintbrushes (*Castilleja* spp.), which were thought to have historically been used as host plants for Taylor's checkerspot within the Butterfly Mitigation Zone and surrounding prairie. Maintain a stable population of non-native English plantain (*Plantago lanceolata*), which already exists within the site, to serve as a larval host plant for the Taylor's checkerspot. (Benton County Prairie Species Habitat Conservation Plan. 2010).
- Action: **[I]** Establish a diverse population of nectar producing native forbs within the Butterfly Mitigation Zone and surrounding prairie such as narrowleaf onion (*Allium amplectens*), common camas (*Camassia quamash*), dwarf checkermallow (*Sidalcea virgata),* Oregon sunshine (*Eriophyllum lanatum*), Tolmie's mariposa lily (*Calochortus tolmiei*), seablush (*Plectritis congesta),* toughleaf iris (*Iris tenax*), nine-leaf lomatium (*Lomatium*

triternatum), meadow checkermallow (*Sidalcea campestris*), dwarf checkermallow (*Sidalcea virgata*), American vetch (*Vicia americana*), and strawberry (*Fragaria virginiana*).

- Action: **[I-II, RM]** Clear a butterfly flight corridor along the western edge of the site (see *Action Plan Map*) to facilitate butterfly movement between Lupine Meadows, the designated Butterfly Mitigation Zone, existing population of Kincaid's lupine, and the surrounding restored prairie areas. This will be achieved by removing, thinning, and pruning existing areas of trees and shrubs within this corridor where feasible. Female Oregon ash could be targeted for removal to limit further spread. Maintain enough woody vegetation along waterways to prevent erosion. Consider targeting female Oregon ash for removal to limit further spread.

Objective 1d. Wetland Prairie Vegetation: Increase native cover throughout the wetland prairies over time, preserve and enhance existing pockets of existing high diversity wetland prairie where they exist, and use a phased approach to restore pockets of high diversity wetland prairie.

- Action: **[III]** Increase native grass and forb cover throughout the wetland prairie over time. This can be achieved through gradual reduction of highly competitive non-native pasture grasses such meadow foxtail, tall fescue, crested dogstail grass, and common velvetgrass and through implementation of periodic ecological burns that are followed by overseeding of native species.
- Action: **[I-II]** Restore high diversity native wetland prairie on approximately 50 acres, focusing initially on the patches to the north and east of Mulkey Creek and patches in the southern panhandle in proximity to the butterfly mitigation zone (see Action Plan).
- Action: **[I-II, RM, Vol]** Eradicate invasive woody vegetation within the interior core of the wetland prairie patches including Himalayan blackberry, Scotch broom, and oneseed hawthorn and control along the edges.
- Action: **[RM]** Control non-native invasive vegetation including Canada thistle, pennyroyal, and reed canarygrass with highest priority given to control in restored high quality prairie areas.
- Action: **[I-III, O]** Preserve and expand existing populations of target wetland prairie plant species including Nelson's checkermallow and Willamette daisy and establish stable populations of Bradshaw's lomatium (currently not present on site).

Objective 1e. Wetland Prairie Hydrology: Increase hydrologic diversity within the wetland prairie areas by integrating several shallow vernal pools which will hold water later into the spring and provide suitable habitat conditions for amphibians such as Pacific tree frogs and northern red-legged frogs.

- Action: **[I-II]** Create a series of vernal pools covering a total of approximately 2 acres in conjunction with wetland prairie restoration actions in the area to the north of Mulkey Creek. These vernal pools would be sited in the areas where water flows are directed through culverts under the access road/trail and/or through incised ditches. The grading of the vernal pools would be concurrent with the site preparation for the wetland prairie restoration proposed for that area and the vernal pools would be designed to hold water later into the season than the adjacent wetland prairie. Logs may be placed in and around the completed vernal pools to provide habitat conditions for native amphibians.
- Action: **[II-III]** Consider replacing the existing road/trail that currently bisects the wetland prairie areas on the eastern end of the site with a configuration that allows for better cross flow. Currently the flow passes under the road through two primary culverts. Solutions could include construction of a boardwalk or installation of multiple smaller culverts.
- Action: **[I-II]** Remove or block areas of drainage tile located in the prairies near Mulkey Creek to reestablish wetland hydrology.

Objective 1f. Oak Savanna: Preserve 44 acres of existing oak savanna and enhance the understory condition over time.

- Action: **[I]** Remove encroaching trees (non-oak) from the designated savanna area and consider thinning some denser concentrations of younger oaks to attain better savanna densities. Consider retaining some of the larger

fir trees as dead standing snags to improve habitat conditions for bird species such as acorn woodpecker, lazuli bunting, Pileated woodpecker, slender-billed nuthatch, and western bluebird. Target oak density within the savanna should be between 5 and 20 trees per acre in this area (5-30% cover to drip line when mature). Large scale use of equipment will be timed to avoid impact to ground-nesting birds, with smaller scale spot treatments used during the nesting bird season when necessary. Control re-sprouts of non-oak trees.

- Action: **[O]** Retain selected oak seedlings that are sprouting in savanna openings or nearby prairie as a way of regenerating oaks over time. These trees will be marked in the field in a way that will prevent accidental mowing or removal.
- Action: **[I, RM, Vol]** Eradicate non-native woody vegetation including Himalayan blackberry, oneseed hawthorn, and Scotch broom.
- Action: **[RM]** Control non-native invasive vegetation as specified in the upland prairie objective 1b.
- Action: **[III]** Increase native grass and forb cover over time throughout the savanna. This can be achieved through gradual reduction of highly competitive non-native pasture grasses such as creeping bentgrass, dogtail grass, Kentucky bluegrass, and tall fescue and through implementation of management techniques such as ecological burns, herbicide application, solarization, shade clothing, and haying. Where feasible, the management technique will be followed by overseeding (broadcast or seed drilled) or planting (plugs or bulbs) of native prairie grass and forb species.

Objective 1g. Oak Woodland: Maintain and enhance oak woodland habitat structure to ensure long-term survival of the oak and enhance and the native understory condition over time. [Note: approximately 5 acres of oak woodland will be thinned to oak savanna density – see Objective 2a]

- Action: **[I-II, RM]** Maintain and enhance the structure of existing oak woodlands by limiting new tree growth within these areas and selective tree removal and thinning where needed to achieve target tree densities and protect legacy oaks. Thinning will focus on removal of exotic trees, conifers, and dense stands of young oaks. Some younger oaks will be retained to serve as replacement trees as appropriate. Priority I will include thinning around larger legacy oaks. Target oak density within the woodland should be between 35 and 45 trees per acre in this area.
- Action: **[II, RM, Vol]** Eradicate invasive non-native woody vegetation such as Himalayan blackberry, holly, Scotch broom, domestic pear, and oneseed hawthorn.
- Action: **[RM]** Control non-native invasive vegetation, with a focus on preventing establishment of false brome, lemon balm, and shining geranium, which have not yet become widely established in the oak woodlands.
- Action: **[III]** Enhance woodland understory over time to increase cover and diversity of native shrubs, grasses, and forbs.
- Action: **[RM]** Retain dead-standing snags and downed wood where feasible to benefit native wildlife including slender-billed nuthatch, chipping sparrow, American Kestrel (perches), chipping sparrow, Western bluebird, Lazuli bunting, pileated woodpecker, bumble bees, and reptiles.

Objective 1h. Riparian Forest/Riparian Shrub: Preserve and enhance existing riparian forest habitats on approximately 60 acres and allow much of the 6 acres of riparian shrub to transition to riparian forest to benefit native plant and wildlife species and protect water quality. In some cases, areas of riparian forest and riparian shrub may be reduced in stature or thinned to help maintain connectivity prairie patches (see Objective 1a).

- Action: **[II, RM]** Control invasive woody vegetation including Himalayan blackberry and Oneseed hawthorn.
- Action: **[I]** Eradicate the white poplar trees that have established along Mulkey Creek near the house and English ivy, which is establishing in small quantities along Oak Creek.
- Action: **[II-III, RM]** Control reed canarygrass, false brome, and teasel, targeting small establishing patches through mowing and herbicide application. Replant treated areas with thicket forming shrub species such as willow, spiraea, or dogwood or plant plugs/seed of species such as slough sedge, awl-fruited sedge, softstem bulrush, and common spikerush in wetter shaded riparian areas. Spot spray any regrowth if it occurs until natives are established.

- Action: **[O, RM]** Through natural succession, allow riparian shrub transition to a riparian forest condition over time while controlling non-native trees and shrubs.
- Action: **[I-II]** Expand the width of the riparian area along Mulkey Creek between the house and the cross trail. Plant native trees and shrubs to develop into a healthy riparian community that provides additional habitat and water quality protections. Expand the width of the riparian forest along the south side of Oak Creek in conjunction with possible future trail re-location project in that area.
- Action: **[O]** Evaluate the need for fencing along riparian areas to exclude livestock grazing from riparian habitats and waterways. Additional fencing may be needed along Mulkey Creek for example, but along the tributaries to Newton Creek at the south end of BHF grazing impacts to the riparian area might be able to be managed by limiting the timing of grazing to summer and limiting the duration and intensity of grazing. Temporary fencing might be sufficient is some area while permanent fencing might be better suited for others areas.

Objective 1i. **Aquatic:** Preserve and enhance the site's in-stream aquatic habitat on lower Mulkey Creek, Oak Creek, and Newton Creek tributaries and implement future enhancements based on results of future aquatic evaluation efforts.

- Action: **[O]** Participate in regional efforts to improve habitat conditions within the Oak Creek system for target species such as western pond turtle, cutthroat trout, and Chinook salmon.
- Action: **[RM]** Identify and repair areas of stream bank erosion and down-cutting to protect water quality for fish and other aquatic organisms. Note: Repair of the incised Oak Creek is not possible within the short segment that runs through BHF without a broader regional approach.
- Action: **[II-III]** Retain and consider placing additional large woody debris in Mulkey Creek and Oak Creek to benefit fish habitat and serve as basking logs for western pond turtles.
- Action: **[III, Vol]** Work with ODFW on strategies for reducing the bullfrog population now inhabiting the aquatic habitats at BHF to improve habitat conditions for native fish, western pond turtle, Pacific tree frog, and northern red-legged frog. Options include training volunteers to remove bull frog egg masses at the proper time of year or drawing down livestock ponds inhabited by bull frogs when they are in their egg or tadpole stage.
- Action: **[O]** Prevent livestock from damaging stream channels. Provide off-channel watering or limited access for watering. Harden livestock crossings with rock. Exclude livestock from stream channels with temporary or permanent fencing or limit grazing to seasonal streams when water is not present.

Goal 2: Restoration of Target Habitats
Convert vegetation communities to target habits where feasible through thinning and removal of woody vegetation, invasive species control, and vegetative enhancements.

Objective 2a. Create oak Savanna Habitat: Create approximately 19 acres of additional oak savanna habitat adjacent to existing patches of oak savanna through thinning of designated areas of oak woodland (5 acres), oak-fir forest (13 acres), and fir-oak forest (1 acre). Total target savanna size is approximately 63 acres.

- Action: **[I]** Remove all overstory Douglas-fir through a commercial timber harvest. Consider leaving standing dead snags and downed limbs for habitat.
- Action: **[I]** During the timber harvest, remove all non-native tree species including oneseed hawthorn and the majority of non-oak tree species. Non-oak tree cover should be less than 5% of the total savanna area.
- Action: **[I-II]** During the timber harvest, thin oak to target savanna densities of between 5 and 20 trees per acre (5-30% cover to drip line when mature).
- Action: **[I]** During the commercial timber harvest, treat the area for invasive vegetation including Himalayan blackberry and false brome. Overseed all disturbed areas with native grasses such as Roemer's fescue and California fescue to limit erosion and re-colonization by invasive species.
- Action: **[III]** Enhance woodland understory over time to increase cover and diversity of native grasses and forbs.

Objective 2b. Create Oak Woodland Habitat: Create approximately 31 additional acres of oak woodland by thinning oak-fir forest located on the south and west facing slopes below Mulkey ridge through a commercial timber harvest and enhance understory over time. [Note: approximately 5 acres of oak woodland will be thinned to savanna density]

- Action: **[I]** Remove the majority of overstory Douglas-fir through a commercial timber harvest. Retain a small percentage of conifers to provide year-round cover and escape routes desired by western gray squirrels.
- Action: **[I]** During the timber harvest, remove all non-native tree species including oneseed hawthorn and thin native trees that are not desirable in an oak woodland such as bigleaf maple (6" or less dbh),smaller Douglas-fir and grand fir. Non-oak tree cover should be less than 10% of the total area. Consider leaving standing dead snags and downed limbs for habitat.
- Action: **[I]** During the commercial timber harvest, treat the area for invasive vegetation including Himalayan blackberry and false brome. Overseed all disturbed areas with native grasses such as Roemer's fescue and California fescue to limit erosion and re-colonization by invasive species.
- Action: **[III]** Enhance woodland understory over time to increase cover and diversity of native shrubs, grasses, and forbs.

Objective 2c. Create Wetland Prairie Habitat: Create approximately 20 acres of wetland prairie habitat by removing woody vegetation from shrub habitat (approximately 20 acres) and riparian forest (0.3 acres). Both areas are in proximity to existing Nelson's checkermallow and Willamette Daisy populations.

- Action: **[I]** Remove woody vegetation from 20 acres of shrub habitat located to the south of Mulkey Creek to expand the overall patch size of contiguous prairie habitat in that area and to provide better conditions for management and expansion of the existing Nelson's checkermallow and Willamette Daisy populations.
- Action: **[I]** Remove woody vegetation from 0.3 acres of riparian forest on the far eastern edge of the site to provide better conditions for management and expansion of the existing Nelson's checkermallow population.

Goal 3: Managing Forest Habitats
Manage the site's 49 acres of conifer forest, mixed forest, and fir-oak forest to promote forest resiliency, provide habitat for native wildlife, protect headwater streams, and maintain visual quality.

Objective 3a. Conifer Forest: Manage the 10 acres of conifer forest to reduce overcrowding, through multi-age commercial timber harvest, with retention of legacy old growth Douglas-fir.

- Action: **[II-III]** Thin to improve growth rates and maintain crowns of residual old-growth Douglas-fir, with timber harvest focused on smaller Douglas-fir and grand fir (under 28" butt diameter) as specified in the BHF Forest Stewardship Plan (Trout Mountain Forestry, 2014).
- Action: Control false brome in conjunction with timber harvest.

Objective 3b. Conifer-Hardwood Forest. Preserve the 18 acres of multi-species older forest for aesthetic values, recreational use, wildlife habitat, and protection of the steep slopes above Mulkey Creek (no commercial timber management).

- Action: **[I, RM]** Control scattered patches of false brome with a focus on patches that are adjacent to the recreational trail to reduce spread.

Objective 3c. Fir-Oak Forest. Manage the 20 acres of fir-oak forest for extended rotational commercial timber management to promote Douglas-fir growth and release of viable legacy oaks.

- Action: **[I]** Discourage grand fir seedlings by cutting. Grand fir is poorly suited to these south and west facing slopes and can increase wildfire risk.

- Action: **[I-II]** Thin to promote Douglas-fir growth and longevity and to release legacy oaks where they exist. Regenerate areas with poor growth potential with a variable retention strategy as specified in the BHF Forest Stewardship Plan (Trout Mountain Forestry, 2014). Timber harvest plan will be designed to protect visual quality.
- Action: **[I-II, RM]** Control invasive species such as false brome, English holly, and oneseed hawthorn concurrent with timber harvest and overseed disturbed areas with native grasses and forbs.
- Action: **[I]** Convert approximately 1 acre of fir-oak forest to oak savanna (see Objective 2a).

Goal 4: General Habitat Management and Enhancement
Provide additional habitat features and species specific management actions to benefit native wildlife where appropriate across the site (in addition to actions proposed in Goals 1 and 2).

Objective 4a. Wildlife Habitat Features: Enhance conditions for native wildlife through installation of habitat features and use of specialized management techniques.

- Action: **[Vol]** Improve habitat conditions for native bats by installing bat boxes and roosts. Boxes should be placed high on trees, posts, or structures and have good exposure to the sun. Place in locations that allow good visual access for education and monitoring. Specifications can be found at www.batcon.org.
- Action: **[Vol]** Build and install bird boxes for species such as western bluebirds (prairie and savanna areas) and western screech owl (woodland) and install perches and platforms for raptors such as northern harrier, American kestrel, and bald eagle.
- Action: **[O]** Leave downed trees and snags in place as habitat features where they do not pose a public safety threat or block trails or paths. Where hazard trees must be removed, consider reducing snag height as an alternative to complete removal. Optimal snag height is between 25-35 feet, with several branches between 1-3 feet in length retained. Snags provide habitat for cavity nesting species and provides food for a wide range of birds including owls and woodpeckers. Fallen trees also provide excellent habitat for reptiles and insects such as bumblebees.

Objective 4b. Proactive Invasive Species Control: Prevent establishment or spread of highly invasive species at Bald Hill Farm where feasible.

- Action: **[O]** Coordinate with the Oregon State Weed Board, Upper Willamette Cooperative Weed Board, Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Agriculture, Western Invasives Network, Mary's Watershed Council, and the Native Plant Society of Oregon – Corvallis Chapter on identifying emerging invasive species threats. The Early Detection and Rapid Response (EDRR) process for plants and insects could be a useful tool and provides excellent materials such as invasive species identification keys and photos. A useful web resources is: www.fs.fed.us/invasivespecies/earlydetection.shtml.
- Action: **[I-II]** Target isolated populations of highly invasive non-native species that are currently present at very low levels, but have potential to expand rapidly without intervention. Many of these species could be fully eradicated at current levels. At BHF these species include: English ivy (*Hedera helix*), Meadow knapweed (*Centaurea pratensis*), Scotch broom (*Cytisus scoparius*), white poplar (*populus alba*), Italian lords-and-ladies (*Arum italicum*), lesser periwinkle (*vinca minor*) and climbing nightshade (*Solanum dulcamara*).
- Action: **[RM]** Focus invasive species control activities along avenues of dispersal such as roads, trails, ditches, and parking areas. Maintain a three-foot buffer along trails and roads to help reduce transport by hikers, dogs, and horses.
- Action: **[I]** Develop a standard protocol for preventing transport of weed seed during maintenance activities including installing boot cleaning stations and regularly cleaning maintenance equipment. An on-site equipment cleaning station will be established and GLT will request that contractors clean equipment before entering the site. Consult with other land management organizations such as U.S. Forest Service, U.S. Bureau of Land Management, and City of Eugene on standards and best practices.

- Action: **[O]** Use an Integrated Pest Management (IPM) approach to guide methods used to control of invasive non-native vegetation. IPM is the careful consideration of all available pest (weed) control techniques and subsequent integration of appropriate measures based on assessment of effectiveness, cost, and impacts to the environment.
- Action: **[O]** Monitor and map the locations of highly invasive non-native vegetation. See Objective 8b.

Objective 4c. Forest Habitat Features. Provide snags and woody debris piles to enhance habitat conditions for native wildlife within the forested areas of BHF including confer forest, conifer-hardwood forest, and fir-oak forest.

- Action: **[II]** Create two or more snags per acre at a target size of 16-24 inches dbh (Trout Mountain Forestry, 2014). Snags should be sited so they do not present a hazard to trail users.
- Action: **[I-III]** Create one to two large wood piles per acre. Wood piles could be created during commercial timber harvest and should be approximately 90 cubic feet in size (Trout Mountain Forestry, 2014).

Goal 5: Agricultural Practices and Activities
Accommodate agricultural practices at BHF that support the management and restoration of native habitats, provide research opportunities for testing various approaches for using rotational grazing as a tool for conservation, produce native plant material for restoration, and showcases sustainable agricultural practices.

Objective 5a. Grazing. Use grazing as a tool for habitat management at Bald Hill Farm on an experimental basis and model sustainable grazing practices.

- Action: **[I]** Engage a farmer to graze livestock at BHF under lease or contract. Make the central pasture, feeder barns, and the pole barn available for production of livestock such as cattle, sheep, goats, chickens, or turkeys. Pigs can be raised within barns or enclosures in the barnyard areas.
- Action: **[RM]** Install temporary electrical fencing as needed to contain livestock in desired management units. This activity would likely be the responsibility of the leasing farmer, with guidance provided by GLT to limit impacts to sensitive areas.
- Action: **[I]** Establish and improve a central pasture area of approximately 125 acres located within the designated agricultural and building zone. Improve the pasture through grazing and rest periods, seeding with perennial forage and/or native species, and/or soil amendments. The central pasture would function as a hub from which livestock could be moved to other areas of the site for habitat management purposes as needed.
- Action: **[O]** Monitor the central pasture annually in the spring to identify ground nesting birds such as Oregon vesper sparrow and western meadowlark and adjust livestock rotations accordingly to avoid impacts.
- Action: **[I-II, RM]** Work with the leasing farmer to improve the productivity of the central pasture to increase available forage and consider upgrades such as construction of additional internal fencing, installing additional watering facilities to better disperse livestock, and possibly upgrading the fencing to allow for the pasturing of smaller livestock such as sheep and goats in the future. Allow pasture based production of cattle, sheep, goats, chickens and turkeys in the central pasture.
- Action: **[I]** Evaluate the need for improved manure management at the barns. Work with NRCS or Benton SWCD to determine improvements.
- Action: **[RM on an experimental basis]** Use grazing as a management tool on prairie and savanna habitats at Bald Hill Farm on an experimental basis with careful documentation of pre- and post- grazing conditions. Grazing will be timed to limit impacts to native wildlife such as ground-nesting birds, rare plants, and sensitive riparian and wetland areas. Temporary cross fencing (electric) will be used to contain grazing to designated areas and dispersed temporary watering facilities will be used to limit heavily impacting a single area.
- Action: **[O]** Track and record predator/livestock conflicts and address problems that may occur through preventative methods such as improvements to fencing and facilities, livestock management, modified livestock selection, and non-lethal predator deterrent methods. Predators are an important part of the ecosystem and as such need to be able to exist on the site. At the same time, grazing livestock also play a role in this managed ecosystem and need to be able to exist without unsustainable losses to predation. If predator problems are not resolvable through the above means, collaborate with farm operator, Oregon Department of Fish and Wildlife,

and other agencies to remove individual problem animals. Lethal removal of predators shall be reserved for cases where alternative methods do not bring predation to sustainable levels, or if a predator is in the act of attacking livestock.

Objective 5b. Native Plant Nursery. Establish a native plant nursery at BHF to provide locally sourced native plant materials for restoration effort at BHF and other nearby sites.

- Action: **[I]** Plan and identify a location for the native plant nursery. The nursery will likely be sited in the designated agricultural or building zone near the house, where well water or water rights from Mulkey Creek could be used.
- Action: **[I-II, Vol]** Develop and operate the native plant nursery in phases and train volunteers to assist with the operation. The native plant nursery will likely include grow-out beds, a small greenhouse, deer exclusion fencing, and a seed cleaning facility and may produce native grass and forb seed, plugs, bulbs, shrubs, and trees. Eventual footprint could be 1-2 acres.

Goal 6: Recreation, Education, and Stewardship
Provide opportunities for the public to access and enjoy the diverse landscape of Bald Hill Farm, to engage in organized and individual education and recreation, and to actively participate in the management of the property.

Objective 6a. Recreational Trails: Maintain a network of designated trails that enables visitors to easily access and enjoy a diversity of habitats, points of interest, and views, while limiting impacts to sensitive habitats.

- Action: **[RM by Benton County, Vol]** Retain the existing network of soft-surfaced trails in their current locations and monitor and maintain surfacing as needed to ensure user safety and accessibility.
- Action: **[I]** Evaluate options and funding opportunities to relocate the trail segments that parallel Oak Creek and the trail segments that are currently combined with gravel access roads. The Oak Creek segment could be moved farther from the creek or routed through the adjacent pasture to allow for a wider riparian area for Oak Creek. The segments that share the gravel access road could be moved into adjacent pastures to reduce potential conflicts between trail users and vehicles, reduce dust exposure of trail users, and enhance the overall trail experience. All potential relocations will need to consider appropriate sites, impacts to conservation values and neighbors, impacts to agricultural operations, and additional fencing needs. New trail locations will minimize or avoid impacts to conservation values such as sensitive wildlife, plants, habitats, or wetlands by minimizing footprints and avoiding sensitive locations. Trails will be constructed to provide drainage and movement of water using where possible "green" features such as a permeable, low-erosion surface. **[See T1 on *Action Plan Map*]**
- Action: **[I]** Formalize the Oak Creek entrance as a public access for non-motorized recreational trail uses. Install appropriate signage and enhance safety at the bridge by installing guard rails. Work with adjacent neighbors to minimize impacts. No parking for public access to be allowed at this location.
- Action: **[O]** For any new or relocated trail segments grant trail easements to Benton County to facilitate consistent trail use, maintenance, and management. Grants of easement require approval from BPA, OWEB, USFWS, and/or OPRD depending on the location of the trail easement segment.
- Action: **[RM by Benton County]** Encourage Benton County to maintain existing trails at BHF to eliminate drainage issues and encroaching vegetation. Trails will have a minimum tread width of 36 inches and be cleared of overhanging branches up to 8 feet where horse use is permitted. Culverts and water bars should be visually inspected on an annual basis and cleared as needed. Trail braids, cut switchbacks, desire lines, and other unofficial trails should be blocked and re-vegetated as they form. Invasive species such as lemon balm and false brome will be controlled along trail edges to prevent its spread by trail users.
- Action: **[RM by Benton County]** Ensure ongoing user safety and enjoyment by eliminating tripping hazards such as exposed tree roots, controlling poison oak along the trail edges, and controlling stinging insects such as yellow jackets.

- Action: **[I-III, Vol]** Using the Recreational Trails Plan (see second Objective 9a) as a guide, consider expanding the trail network at BHF over time to improve user enjoyment, to provide access to additional natural features and viewpoints, and to provide connections to other nearby natural areas and trails. Care will be taken to not over-build the trail network, especially within the more sensitive natural resource areas and new trails segments will be planned with input by trail users and adjacent property owners. New trails will be sited carefully to avoid negatively impacting sensitive or wet areas and where they might impact neighboring properties and will have a minimum tread width of 36 inches and a maximum sustained grade of 12 percent or less. New trail construction will be guided by an experienced trail builder, but could use volunteer labor. Potential new trails could include:
    - *Upper Fitton Green Connector Trail*: Soft surfaced trail extending from the west end of the Mulkey Ridge Trail through potential future GLT owned property (50 lf soft surfaced trail on BHF property, then off site to the west). Note: This connector trail is currently under construction. **[See T2 on *Action Plan Map*]**
    - *Bald Hill Natural Area Connector Trail*: As an alternative to the route described above, the connector trail from Mulkey Ridge could follow the south property boundary and tie into the existing trails near the Bald Hill Natural Area, creating a loop that avoids bringing trail users directly past the farm buildings (1,200 lf converted dirt road to soft surface trail, 800 lf of shared use with gravel road, 2,500 lf new soft surfaced trail). **[See T3 on *Action Plan Map*]**
    - *Mulkey Ridge Loop Connector Trail*: Soft surfaced trail connecting the Mulkey Ridge Trail to the access road to the south and classification of the existing gravel road to a public trail route past the farm buildings and house (1,400 lf soft surface trail, 1,200 lf converted dirt road to soft surfaced trail, and 2,800 lf shared use with gravel road). This would create a loop option. **[See T4 on *Action Plan Map*]**
    - *Lower Fitton Green Connector Trail*: Soft surface trail or gravel surfaced maintenance road extended westward from the end of the existing dirt road through potential future GLT owned property (off site to the west). **[See T5 on *Action Plan Map*]**
    - *West Hills Road Connector Trail*: Consider long-range opportunities and assess the need and feasibility of providing trail access into the southern panhandle of BHF over the long term (priority III) with a possible future connection to West Hills Road. The trail would need to be carefully sited to avoid impact to rare plant populations and wetlands and would likely need to include several bridges and/or board walk segments. **[See T6 on *Action Plan Map*]**

Objective 6b. User Experience and Facilities: Provide opportunities and related facilities to accommodate nature-based recreational activities such as wildlife viewing, photography, nature study, walking for pleasure, jogging, running, bicycling, horseback riding, and picnicking.

- Action: **[II-III]** In cooperation with Benton County or City of Corvallis, provide basic user amenities within the publicly accessible areas of BHF where appropriate including features such as benches, directional signage, dog waste bag stations, trash receptacles, boot cleaning stations (invasive species control), and possibly rest rooms (possibly near parking). Care will be taken to ensure that added user amenities do not detract from the visual quality of the natural resource area.
- Action: **[I-III]** In conjunction with planned prairie restoration actions (see Objectives 1b-1f) plant showy native forbs in dense concentrations in bands along trail corridors to enhance user experience and foster appreciation for native plants. Species could include camas (*Camassia quamash* and *leichtlinii*), Oregon sunshine (*Eriophyllum lanatum*), lupine (*Lupinus* spp.), Tolmie's mariposa lily (*Calochortus tolmiei*), seablush (*Plectritis congesta),* popcorn flower (*Plagiobothrys figuratus*), western buttercup (*Ranunculus occidentalis*) calicoflower (*Downingia concolor*), Oregon iris (*Iris tenax*), checkermallow (*Sidalcea* spp.), gumweed (*Grindelia integrifolia*), tarweed (*Madia elegans*), and yarrow (*Achillea millefolium*). Consider trailside mowing needs and timing of flowering plants in choosing species and locations.
- Action: **[RM, V]** Keep BHF trash-free through a regular maintenance schedule and utilization of volunteers and adoption groups.
- Action: **[O]** Encourage dog owners to obey leash laws and remove pet waste. Pet waste is a major source of water pollution and off-leash pets can disrupt user experience and impact native habitat and wildlife.

- Action: **[O]** Encourage horseback riders and bicyclists to stay on designated trails and abide by seasonal trail closures. Monitor conflicts with other recreational trail users and natural resource impacts. Modify rules guiding horse and bicycle usage accordingly and based on recommendations of the Recreational Trails Plan (proposed under Objective 9a.).
- Action: **[I]** Provide site boundary signage at key locations around the perimeter of BHF to clarify the extent of the property and limit accidental trespass onto adjacent properties.
- Action: **[RM]** Allow continued placement of geocaches at BHF (seven currently exist) as a way to promote public use and exploration, but periodically assess cache locations to ensure they are not inadvertently harming sensitive habitats or pose a public safety risk. Locations of all existing geocaches can easily be monitored on www.geocaching.com and can be removed or relocated on request.
- Action: **[I]** Post no hunting signs at key locations. Due to increasing farm, education, stewardship, and trail uses; the frequency of staff, volunteers, and partners traversing the site for management, maintenance, and monitoring; and the proximity of trails, roads, buildings, and neighboring residences hunting will not be a permitted use at BHF. Limited hunting, in consultation with Oregon Department of Fish and Wildlife, may be considered in the future to help manage populations of specific wildlife species that are found to be negatively impacting conservation values.
- Action: **[I-III]** Consider providing a water source for horses or dogs if stream access causes unacceptable erosion or disturbance or if stream access is limited in the future. Any watering should be located to avoid or minimize impacts to conservation values and sensitive resources.

Objective 6c. Outdoor Education and Learning Opportunities: Use and improve Bald Hill Farm as a site for outdoor education and develop a comprehensive approach to guide formal outdoor education at Bald Hill Farm and plan for adequate support facilities.

- Action: **[I, O]** Develop guidelines for educational use of BHF that includes refinement of the existing process for requesting access (GLT currently has an access permit process), defining suitable points of access and parking, and defining areas best suited for nature study. To limit impacts, groups accessing the site should remain on designated trails where feasible. Where access is granted to areas outside of the designated trail system, routes and areas should be selected to avoid sensitive plant populations and wildlife such as ground nesting birds.
- Action: **[II-III]** Assess the need over time for an indoor nature center/classroom space at BHF to support educational programs, which could use new or re-purposed buildings. The house or a converted out-building could potentially serve this purpose.
- Action: **[II-III]** Develop and implement an interpretive plan for BHF that will consider use of interpretive signage, self-guided tour brochures, or electronic media.
- Action: **[I-II]** As specified in Objective 4B, establish an on-site native plant nursery near the house to serve as an educational resource for BHF visitors and volunteers.
- Action: **[O]** Provide access to a variety of habitats, unique natural features, and viewpoints across BHF to provide learning opportunities to visitors.
- Action: **[O]** Provide and host opportunities for the public to visit and learn about conservation, Bald Hill Farm, and Greenbelt Land Trust. Opportunities may include *Symphony on the Land*, nature or farm walks, star gazing, or other targeted activities. Activities will be designed to avoid or minimize impacts to conservation values by limiting access to sensitive areas or during sensitive times, avoiding spread of invasive species, limiting the numbers or duration of visitors, and directing parking and uses to stable areas.

Objective 6d. Volunteers: Promote opportunities for community members to volunteer at Bald Hill Farm as a way of building stewardship and increasing GLTs capacity to manage the property and monitor public use.

- Action: **[I, O]** Develop a comprehensive list of suitable management or monitoring activities that could be assigned to volunteers. This would include tasks that could be undertaken by volunteers on a regular basis (e.g. weekly hydrologic monitoring, wildlife monitoring, or invasive species monitoring) and activities suited for larger

groups of one-event volunteers such as school groups or Benton County United Way *Day of Caring* volunteers (e.g. trail maintenance, tree planting, or blackberry removal).

- Action: **[I, Vol]** Expand the existing *Stewardship Volunteer Programs* to form a pool of regular Bald Hill Farm volunteers or adoption group. With assistance of skilled volunteer team leaders, train volunteers to perform ongoing natural resource maintenance and monitoring activities within the property. Regular management activities could include controlling invasive species such as blackberry or English ivy, watering newly planted trees and shrubs, maintaining fences, or collecting trash. Monitoring activities could include recording wildlife sightings, tracking invasive species, and taking photos from designated photo-points.
- Action: **[I, Vol]** Consider expanding the existing volunteer *Naturalist Program*, where volunteers and neighbors could be enlisted and trained to interact with visitors, answer questions about the site's habitats, and monitor and report illegal activities.
- Action: **[I]** Expand posting of GLT phone contact information at the parking lot kiosk and elsewhere along the trail system so that BHF visitors can easily report natural resource or public safety issues.

Goal 7: Facilities and Access
Provide and maintain adequate site access and facilities to support the ongoing maintenance and management of the Bald Hill Farm property.

Objective 7a. Site Access and Maintenance: Provide adequate access onto the site for regular maintenance activities and wildfire control.

- Action: **[RM]** Retain and maintain the existing gravel surfaced roads in their current locations to provide all-season access into key areas of the site. Use periodic grading, compacting, and addition of gravel to maintain road crown and drainage and to prevent erosion, potholes, and greater repair expenses.
- Action: **[RM]** Consider applying dust abatement (lignon) to reduce dust at select locations or during periods of increased road use. Seek cost share with neighbors benefiting from dust abatement to reduce GLT costs.
- Action: **[RM]** Retain the existing dirt road in its current location to provide dry-season access to the western edge of the site and possible fire break for future ecological burns.
- Action: **[RM]** Retain and maintain existing locking gates at the access points from Newgate Drive, Rosecrest Drive, and Oak Creek Drive to control access.
- Action: **[RM]** Inspect and unclog blocked culverts at least once annually.
- Action: **[I-III]** Install skid roads to provide access for forest stewardship activities as proposed in the Forest Stewardship Plan (Trout Mountain Forestry, 2014).
- Action: **[II-III]** Assess usage of the public parking lot on Oak Creek Drive and work with Corvallis Parks & Recreation and Benton County on future expansion or elsewhere if needed. A parking needs assessment and set of recommendations could be included in the Recreational Trails Plan proposed under Objective 9a.

Objective 7b. Structures: Maintain adequate structures on site to support proposed management, agricultural, and public use activities.

- Action: **[RM]** Retain and maintain the existing house for activities related to the management of the site, tenancy to bring in income for site stewardship, for hosting events, and possible future educational activities or office space for GLT.
- Action: **[I]** Stabilize the Mulkey south barn according to engineer recommendations to preserve it for future uses.
- Action: **[I]** Demolish Mulkey north barn and remove materials from the site. Retain the associated concrete slab for future uses or remove it at a later time if not needed.
- Action: **[I]** Remove and dispose of two dilapidated wooden sheds.
- Action: **[I-II]** Conduct a comprehensive analysis to determine long-term need for the house, out-buildings, or additional buildings to support agricultural and management activities planned at Bald Hill Farm. Buildings would be used for livestock management (feeder barns), equipment storage, meetings, events, and educational activities. This will incorporate Grazing Plan recommendations for agricultural facilities (see Appendix H).

- Action: **[II-III]** Based on needs analysis, remove unnecessary buildings to reduce liability and maintenance costs and maintain and improve other buildings as necessary.

Objective 7c. Fencing: Maintain adequate fencing to contain livestock in areas where grazing will be used as a management technique and to help define the site boundary and remove unneeded fencing.

- Action: **[I, O]** Assess fence condition and location on entire property and develop maintenance and repair schedule to bring all fences into functioning condition.
- Action: **[RM]** Inspect and repair fence lines as needed at least once annually.
- Action: **[I, RM]** Retain and maintain the existing perimeter fencing. In addition to containing livestock, this fence line is important for defining the boundary of BHF. Repair or replace the segments of failing perimeter fencing located along the western edge of the site where necessary (priority I)
- Action: **[RM]** Retain and maintain the existing fencing that parallels roads and trails to contain cattle and keep trail users out of sensitive areas.
- Action: **[I]** Replace temporary fencing with permanent fencing (5 strand smooth wire) along the road between the Mulkey barns and the shop, along the road from the shop to the west property boundary, and along both sides to Mulkey Creek. Permanent fencing is needed to contain livestock within larger management units and exclude them from riparian zones.
- Action: **[I]** Upgrade and maintain the fencing around the central pasture as specified in the Grazing Plan (see Appendix H) and consider modifying to contain smaller livestock such as goats and sheep. Any new fencing will be designed to be wildlife friendly.
- Action: **[I, Vol]** Remove all other unneeded permanent fencing and collect and remove segments of older downed fence wire that is found within forested areas of the site.

Objective 7d. Wells and Irrigation: Maintain wells and irrigation systems in good operating condition to provide a reliable source of clean safe water for residential uses, livestock watering, and maintenance needs.

- Action: **[RM]** Test wells at least annually for arsenic, coliform bacteria and nitrates/nitrites and treat as necessary to ensure a safe water source. Visually inspect above ground casing, well head, sanitary seal and fittings at least once annually. Measure and record depth to water levels at least once annually.
- Action: **[O]** Maintain a permanent well log to record any maintenance, monitoring, tests, and inspections.
- Action: **[I]** Install backflow prevention valves between the well and irrigation supply lines to prevent accidental siphoning and contamination of wells. Test backflow prevention valves at least annually to ensure proper function.
- Action: **[O]** Bring wells up to current code requirements when completing maintenance or repairs.
- Action: **[O]** Store, use, and manage chemicals and agricultural wastes in a manner to prevent contamination of wells.
- Action: **[I]** Install a buried waterline in the central pasture connected to the shop well to provide livestock watering to facilitate rotational grazing.
- Action: **[RM]** Maintain spring fed watering systems that provide water to livestock.
- Action: **[O]** Exercise the water rights in Mulkey Creek at least once every 5 years to prevent loss of water rights. Consider leasing water rights in-stream with State of Oregon. Irrigation could be used to water the pasture to provide summer grazing (prior to any prairie restoration), the native plant nursery, crops grown within the agricultural zone, or restoration plantings.

Objective 7e. Wildfire Management: Maintain and manage BHF in a way that reduces potential for unintentional wildfires and provide adequate access for emergency response. Reduce the risk of spread of wildfire onto or off of BHF.

- Action: **[I, RM]** Create defensible spaces around structures. Within ecological goals, remove heavy fuels from around structures. Reduce fine fuels and thatch build up around structures by mowing, grazing, or prescribed burning.
- Action**: [RM]** Reduce fine fuels and thatch build-up through regular mowing along roadsides and around structures and annual and biennial mowing, grazing, haying, or ecological burns in prairie and savanna habitats as specified in Objectives 1a. In years that prairie and savanna habitats are not treated mow along the perimeter to create fire breaks between BHF and adjacent property.
- Action: **[RM]** Mow grass areas immediately adjacent to the gravel roads, on and adjacent to the dirt road, along trails, around buildings, and equipment storage areas near the end of the growing season or just prior to or at the beginning of fire season to prevent tall grasses from obstructing movement and to reduce wildfire risk. Mow strips should be a minimum of 8 feet in width along roads and 50 feet from structures where feasible.
- Action: **[O]** Reduce the risk of wildfire ignition during fire season by following Oregon Department of Forestry guidelines for operations on or near forest lands.
- Action: **[RM]** Post signage at key locations and the parking lot entry kiosk during fire season to warn visitors of potential wildfire danger and related regulations and restrictions.
- Action: **[RM]** Train staff in fire response. Carry firefighting equipment (e.g. shovel , Pulaski, fire extinguisher) and water in all maintenance vehicles during the fire season for rapid response and limit use of motorized equipment during the driest times of the day during fire season.
- Action: **[RM]** Control highly flammable invasive species such as Himalayan blackberry and Scotch broom.
- Action: **[I-III, RM]** Reduce ladder fuels by removing young blackberry, English hawthorn, and conifers as specified in the Forest Stewardship Plan.
- Action: **[I]** Evaluate the need to install additional "pump chances" (small ponds) in strategic locations across the site to provide a water source for fire-fighting during the dry summer months. Mulkey Creek and Oak Creek could be used as a reliable water source for fire-fighting.
- Action: **[I]** Coordinate with the Philomath and Corvallis fire departments and Oregon Department of Forestry on wildfire prevention actions, site access, and response.

Goal 8: Monitoring and Mapping
Provide adequate baseline and post project data on site vegetation, wildlife, and hydrology to inform management decisions, track change over time, and meet funder's monitoring requirements while using BHF as a site for ongoing research related to habitat management and restoration approaches.

Objective 8a. Monitoring Program: Develop and implement a cost effective monitoring program to document changes to Bald Hill Farm's vegetation communities, wildlife, and hydrology over time and to meet OWEB, BPA, and USFWS monitoring requirements.

- Action: **[I]** Develop a set of vegetation and wildlife monitoring goals and protocols for the overall site that is both cost effective and effective for gauging change over time.
- Action: **[I, O]** Establish photo-points at key locations around BHF and take photos as needed to track general changes in vegetation communities over time (see *Monitoring Map* for proposed locations).
- Action: **[O]** Develop specific vegetation and wildlife monitoring goals for individual restoration and enhancement projects prior to implementation. The monitoring approach must be cost effective, while providing adequate information to allow managers to gauge project success.
- Action: **[O, Vol]** Collect baseline data in areas proposed for enhancements prior to implementation of major projects as feasible. This could include assessment of pre-project vegetation, recording hydrology (if being modified), and establishment of project specific photo points.
- Action: **[O, Vol]** Conduct adequate post-project monitoring to gauge success and inform the adaptive management process as feasible.

Objective 8b. Baseline Vegetation Data: Provide baseline vegetation data on rare plant populations, patches of high quality vegetation, and invasive species present.

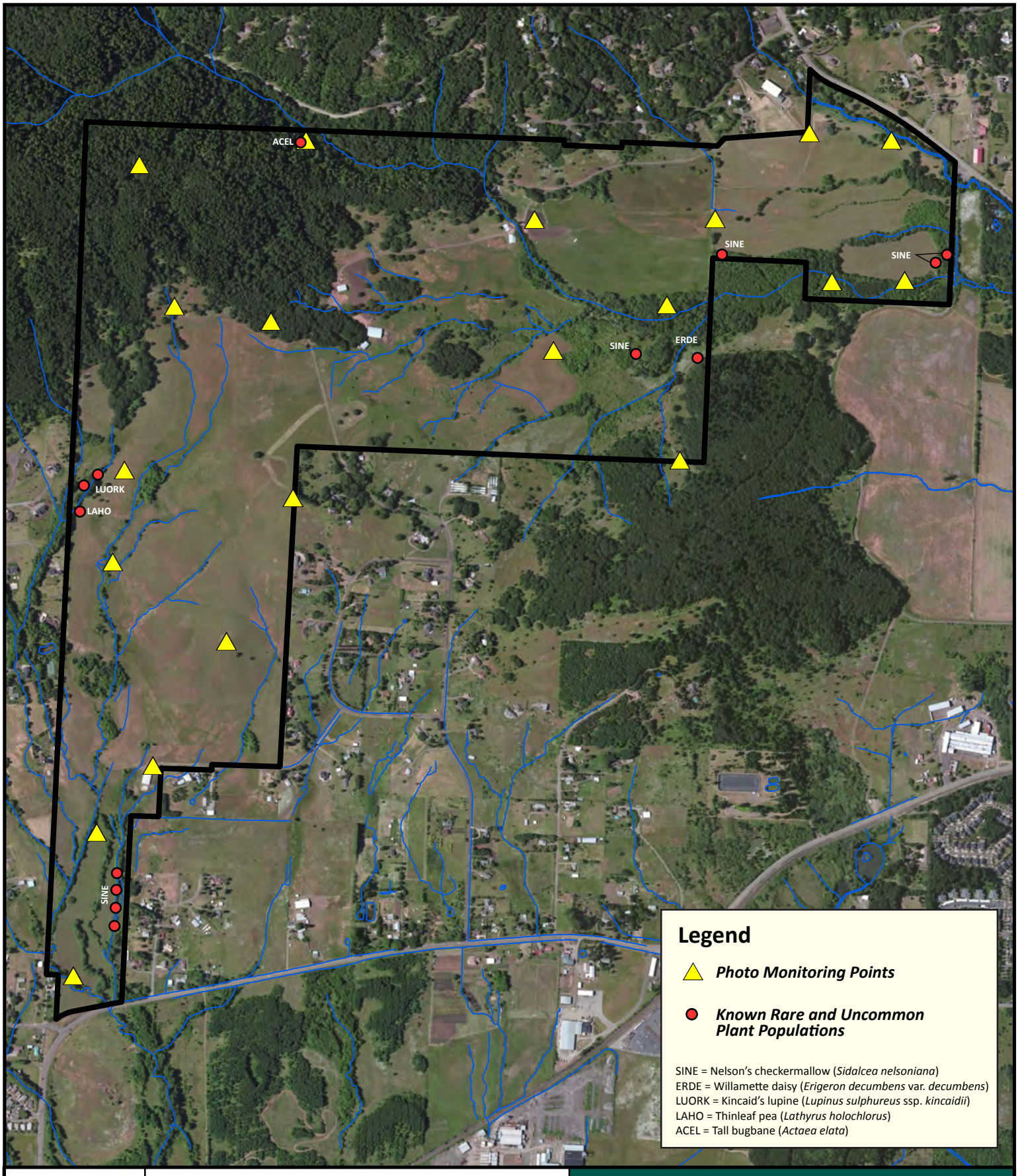
- Action: **[I, O]** Record locations of rare or unique plant populations and other plant species of interest (build on surveys conducted by IAE and Carex) and monitor on a biennial basis. See *Monitoring Map* showing rare plant populations to be monitored.
- Action: **[II, O on a 10 year cycle]** Conduct a comprehensive site wide rare plant survey approximately once every ten years.
- Action: **[I, O]** Identify and map areas of the site with particularly high native grass and forb diversity and composition so that these patches can be managed and enhanced in a way that protects that valuable resource.
- Action: **[O, Vol]** Record and map populations of highly invasive plant species that have potential to rapidly spread across the site.
- Action: **[O, Vol]** Map large concentrations of more widespread invasive species such as Himalayan blackberry and oneseed hawthorn as feasible.

Objective 8c. Fish and Wildlife Surveys: Conduct fish and wildlife surveys on the site, focusing on target species.

- Action: **[I]** Develop an overall fish and wildlife monitoring plan for BHF, including determining which species are to be monitored, frequency and types of surveys needed, data analysis procedures, etc. This will build on existing breeding bird surveys that have been conducted in recent years.
- Action: **[I, O]** Monitor the area contained within the designated butterfly zone annually for the presence of Fender's blue and Taylor's checkerspot butterfly populations and the presence and abundance of nectar producing forb species including Kincaid's lupine.
- Action: **[O, Vol]** Conduct cost effective fish and wildlife surveys in the years subsequent to major enhancement efforts at BHF using similar methodology to the baseline surveys so that the impacts on wildlife populations can be gauged over time.
- Action: **[I-II]** Determine locations of native fish populations, with a concentration on key species including cutthroat trout and lamprey and possibly Chinook salmon on Oak Creek.
- Action: **[O, Vol]** Determine locations used by target amphibians and reptiles including western pond turtles and red-legged frogs.
- Action: **[O, Vol]** Record significant mammal sightings including date, location, and time. At a minimum, document key species such as beaver, western gray squirrel, elk, mountain lion, bobcat, black bear, and coyote. Consider placing trail cameras to provide additional documentation including nocturnal use.

Objective 8d. Hydrologic and Water Quality Monitoring: Conduct hydrologic and water quality monitoring to inform management decisions and help track change over time.

- Action: **[I]** Develop a set of water quality and monitoring goals and protocols for the overall site that are both cost effective and effective for gauging change over time.
- Action: **[RM]** Visually inspect major stream bank erosion, deposition, and impoundments (beaver ponds) on and around Bald Hill Farm on a yearly basis.
- Action: **[O]** Implement a water quality monitoring program in collaboration with the Marys Watershed Council or other organization, with emphasis on monitoring major streams (Oak Creek, Mulkey Creek, and upper Newton Creek) for temperature, nitrate, and other key water quality indicators.
- Action: **[RM]** Inspect culverts on a yearly basis and make notation of blockages or failures.



greenbelt land trust

0 500 1,000 Feet

Scale

N W E S

November 2014

Map-12

Map produced by JKE

Bald Hill Farm Management Plan

Monitoring Points Map

Goal 9: Partnership and Collaboration
Pursue and maintain partnerships with local, state, federal, and non-profit organizations as a way of collaborating on habitat restoration, management, education, recreation, funding, and sharing of resources.

Objective 9a. Recreation: Work with regional partners to plan and implement recreational facilities such as trails, paths, parking areas, and related facilities.

- Action: **[I-II]** Develop a Recreational Trails Plan in conjunction in partnership with the City of Corvallis and Benton County to guide trail standards and improvements, construction of additional trails, identification of regional needs and connections, support facilities, and funding strategies. Development of the Recreational Trails Plan should include significant public involvement component including a trail user survey.
- Action: **[O]** Collaborate with regional partners such as the City of Corvallis and Benton County on grant applications and maintenance agreements for recreational facilities.

Objective 9b. Habitat Preservation and Management: Collaborate with partners on regional scale habitat management planning and share resources and expertise related to restoration and management efforts.

- Action: **[O]** Take advantage of opportunities to gain feedback and technical assistance from regional partner staff related to proposed natural resource management and restoration activities at BHF. Many partner organizations have gained significant expertise in certain areas of habitat restoration and management in similar habitats. Potential partners could include Benton County, City of Corvallis, City of Eugene, The Nature Conservancy, McKenzie River Trust, Marys Watershed Council, Institute for Applied Ecology, USFWS, NRCS, and ODFW.
- Action: **[O]** Collaborate with regional partners on grant applications for joint funding for management actions such as invasive species control and habitat restoration. For example, an invasive species control grant application could be applied for on behalf of a group of partners and be utilized on multiple.

Objective 9c. Education: Partner with local educational institutions and organizations to plan for and utilize BHF as a site for outdoor education and collaborate on research projects that would inform habitat management decisions.

- Action: **[II-III, O]** Work with area educational organizations such as Corvallis and Philomath Public Schools, Oregon State University, Linn-Benton Community College, Institute for Applied Ecology, Marys River Watershed Council, Audubon Society of Corvallis, and tribal groups on developing curriculum and educational resources that could be used by groups and the general public at BHF.
- Action: **[O]** Allow outside educational organizations to utilize BHF as an outdoor classroom, with guidance to limit impacts to natural resources.

Objective 9d. Research: Provide research opportunities at BHF for natural resource agencies, non-profit organizations, and educational institutions and their students, with an emphasis on activities that assist GLT with monitoring and management needs such as tracking plant and wildlife populations, compatibility of sustainable agricultural practices and habitat management, and effectiveness of various restoration and management techniques.

- Action: **[I, O]** Develop a list of potential research questions that could help improve understanding of the natural resources at BHF and help guide future management decisions. Research topics could include study of wildlife use, tracking rare plant populations, public use patterns and associated impacts, utilization of grazing as a management tool.
- Action: **[O, Vol]** Work with local non-profit organizations such as the Native Plant Society of Oregon – Corvallis Chapter, Audubon Society of Corvallis, the North American Butterfly Association, and the Marys Watershed Councils to conduct plant and wildlife inventories that will assist GLT with ongoing monitoring activities. Encourage these groups to maintain records and inventories using a consistent protocol that will help GLT achieve its monitoring objectives (see Objectives 8b-8d).

6.0 Planning Process and Community Outreach

6.1 Overview of Planning Process

The Bald Hill Farm Management Plan was developed over a 12-month period by a core team of Greenbelt Land Trust (GLT) staff, with input from multiple partners and the community. Concurrently, GLT contracted with *Trout Mountain Forestry* to develop a Forest Stewardship Plan for the forested and wooded portions of Bald Hill Farm. The Forest Stewardship Plan was completed in June 2014 (see Appendix I) and the content and recommendations have been integrated into this Management Plan. The Management Plan also incorporated significant information and data that had been compiled in the previous years. This included detailed baseline inventories for the BPA and OWEB easement areas (May and June 2013), riparian and wetland assessment conducted by *Carex Working Group* (2013), and botanical surveys and rare plant assessments conducted by the *Institute for Applied Ecology* (2010).

6.1.1 Partners Meeting

On April 3, 2014, GLT hosted a half-day planning meeting and site visit to Bald Hill Farm for key partner organizations and stakeholders (see meeting agenda in Appendix I). Approximately 25 people attended this meeting, which included presentation of background information and a walking tour through a range of vegetation communities. The purpose of this event was to collect input on potential management approaches and actions. Input from the participants was then used to help shape the content of the Management Plan. Representatives from the following organizations participated in this meeting:

- American Bird Conservancy
- Benton County Natural Areas and Parks
- Benton Soil and Water Conservation District
- Institute for Applied Ecology
- Lane Livestock Services
- Marys River Watershed Council
- Oregon Department of Fish and Wildlife
- Oregon State University Extension Service
- Oregon Watershed Enhancement Board
- Trout Mountain Forestry
- USDA Natural Resources Conservation Service
- US Fish and Wildlife Service

April 3 Partners Meeting

6.1.2. Grazing Group Meeting

On May 8, 2014 GLT hosted a half-day field trip with the Willamette Valley Grazing and Nutrition Group (WVGANG) to solicit feedback on possible approaches for sustainable grazing and use of controlled grazing as a habitat management tool. The WVGNAG is a an educational study group of farmers and ranchers in the Willamette Valley that meet monthly to share and learn about grazing and forage management. Input from this meeting was incorporated into the Management Plan.

6.1.3. Greenbelt Land Trust Board of Directors and Lands Committee

The GLT staff provided regular updates on management planning to the GLT Board of Directors at monthly meetings and to the GLT Lands Committee at quarterly meetings beginning with development of the Case Statement and through the development of the this written plan. On June 6, 2013 GLT staff presented a draft management plan outline and goals to the GLT Board of Directors. Feedback from this meeting was incorporated into the Management Plan. Goals that were further refined under the written draft plan were given to the GLT Lands Committee on June 4, 2014 for their review and comment.

6.2 Public Outreach

The vision for Bald Hill Farm came out of extensive community outreach conversations, culminating in the development of a Case Statement and subsequent Capital Campaign to fund the acquisition of Bald Hill Farm. Before publicly announcing our intention to purchase the property, in 2010 Greenbelt Land Trust began strategic outreach with property tours to interest groups, listening intently to the feedback received. Interest groups included food advocates, restoration biologists, farmers, trail builders, youth education leaders, conservation partners, foresters, and local governments. These tours enabled us to learn from practitioners, and to understand the breadth of possibilities that Bald Hill Farm afforded.

Staff compiled the input received through these targeted tours, and created a Case Statement for Bald Hill Farm that described our vision for the acquisition and management of the property. In 2011 the Bald Hill Farm Campaign went public, bringing in nearly 3,000 people from our community to interact with the land through events and tours over the next three years. In 2013 as the property was being purchased a public and neighborhood meeting was held on May 23, 2013 at the Corvallis Public Library, followed with a tour the next day, and a neighborhood meeting was held on November 23, 2013 at Bald Hill Farm to share initial plans and gather feedback. Through this extensive community outreach we were able to further hone and clarify our vision for the future of Bald Hill Farm and subsequently the content for this Management Plan.

The draft Management Plan was presented to the general public and adjacent property owners at two events held on July 9 and 10, 2014. Both events included a presentation of background information and an overview of proposed goals and objectives from the draft Management Plan followed by solicitation of input. Input was submitted by participants in written form or discussed with GLT staff and recorded on flip charts. The first event, which was held at the Corvallis Public Library, was advertised through a series of press releases and email invitations (see Appendix I). Approximately 30 participants attended the workshop. The second public workshop was held on July 10 in the house at Bald Hill Farm. This meeting was oriented toward the neighbors and adjacent and nearby property owners were sent postcard invitations (right). Approximately 30 participants attended that meeting.

Public comments received at both meetings were compiled and reviewed by GLT staff. The comments and GLT responses are listed in the Table 6-1 below. Additionally, the draft Management Plan will be posted on the GLT web site starting in December 2014 and GLT will consider additional public comment before the Management Plan is finalized in early 2015.

July 9 Public Meeting

July 10 workshop for adjacent property owners

Table 6-1: Public Comments and Staff Recommendations and Responses

#	Comment	Staff Recommendation and Plan Response
1	Greenbelt should take the lead in comprehensive restoration of Oak Creek along its small reach, and not wait for a landscape scale multi-partner approach.	Riparian restoration along Oak Creek is planned but greater efforts are needed to address system wide impacts to Oak Creek. Partnerships are required for effective watershed restoration, invasive species management, and other landscape scale management issues. Goal 9 (Partnership and Collaboration) addresses need for collaboration with regional partners.
2	Concerned about fence as a hazard to wildlife. She has removed lots of fencing on her own property and would like to see similar actions taken at BHF.	Plan should specify that unneeded fencing will be decommissioned and/or removed as resources allow. Any new fencing will be constructed to wildlife friendly standards as specified by ODFW or other agencies. Problem fences will be corrected as identified and resources allow. Further emphasize how new fencing is compliant with recommendations for wildlife safety and describe efforts to locate and remove remnant fence. Objective 7c (Fencing) was added and addresses removal of unneeded fencing and wildlife friendly design.
3	Neighbor concerned about forest management changing composition of wildlife and vegetation near her home and potentially putting her home at risk when trees are subjected to higher wind speed after forest thinning.	We will evaluate potential for increased windthrow with our foresters as harvest plans are developed. Harvest of conifers will be necessary in some areas to prevent loss of oaks, which are part of a regionally threatened habitat. Wildlife populations and species communities are likely to change and respond to any changes in habitat, including successional changes through no human intervention. Contract foresters will evaluate potential risks to adjacent properties during development of harvest plans.
4	One family whose property is located near the farm road/trail expressed concern about traffic and dust generated by vehicles accessing the Farm near their house and said they worried about the problem increasing with the forest management plan implementation. They were also concerned that treatment of roadside weeds would cause drift to their garden.	Meet with family to discuss issue and included a short section on road maintenance (Objective 7a).
5	Two attendees wanted more opportunity to comment in detail on the draft plan and assurance that public comments would be fairly considered and incorporated into the finished plan.	We will attempt to address comments on the written draft but may not accept all comments and recommendations. Interested parties will be notified when draft plan is available for review.
6	Neighbor commented that they value visitors to their house having access to trails via the front drive bridge into Bald Hill Farm, which is not an official access point.	GLT is considering making the Oak Creek entrance an official public access for non-motorized recreational trail uses. Objective 6a (Recreational Trails) and Objective 6b (User Experience and Facilities) provides direction on public access.
7	Will pacific and brook lamprey will be managed for in creeks on Bald Hill Farm?	BHF will be managed for healthy stream systems with expectations that native fish communities are present. GLT may periodically survey for fish but likely will focus management on habitat rather than specific species and will participate in regional or fish community studies and initiatives. Objective 8c (Fish and Wildlife Surveys) provides direction on future monitoring related to fish populations.
8	Will grey fox and Douglas squirrel be managed for?	Although these species are not identified as nested target species at BHF, general management and restoration of target habitats would provide benefits to many native species. Object 8c (Fish and Wildlife Surveys) includes recommendations for recording mammal sightings. If these species are present, future management could address specific habitat needs.

#	Comment	Staff Recommendation and Plan Response
9	Various aspects of the property, especially agriculture, should be analyzed for economics against for-profit model.	This task in not within the scope of our goals for the property.
10	I'd like assurance that fire will not be used as a weed management control option.	Many of the habitats native to the Willamette Valley developed under a frequent fire regime and fire is a useful tool to help manage habitats. Specific to the plan we have a section to address fire risk to the property and neighbors' properties. Objective 7e (Wildfire Management) identifies management actions to reduce potential for unintentional wildfires and adequate access for emergency response.
11	Some areas of the existing trails provide water for dogs/horses that use the recreation trails. Periodic access along the trail for these purposes is important to be able to use the trails. Do not restrict all access to Oak Creek and Mulkey Creek unless public watering for recreational animals is provided.	There are no current plans to directly restrict access to the streams, but GLT will seek to minimize the impacts of access points on bank erosion and vegetation disturbance. Riparian habitat restoration could include temporary barriers/closures to facilitate plant establishment and long term habitat development could make access more difficult. Watering could be considered as described in Objective 6b.
12	I sympathize with the neighbors in the yellow house [complained of dust]. The road should be paved along that area.	GLT may consider seasonal dust abatement for select sites or during periods of increased activity. To reduce costs GLT may seek cost share with neighbors benefiting from dust abatement.
13	[I] recommend specific language regarding predator control methods to protect livestock be inserted in the management plan. Something like: "non-lethal predator control is preferred. Lethal predator control is to be used only as a last resort and only to remove individual chronic depredating animals or habituated animals." The management plan is a document for the future. It ensures that future tenant farmers are as predator tolerant/friendly as [Afton Field Farm] is.	Objective 5a describes our interests in balancing wildlife needs and protecting livestock. Can prioritize common methods like fencing, livestock selection, using barns for sheep and lambs, guard animals if problems develop, non-lethal first, then removing individual perpetrators. Staff met with local wildlife advocates and discussed current and expected direction of predator management, though didn't commit to specific MP content or outcomes.
14	Will volunteer naturalist activities be included in Greenbelt newsletter?	Yes, but not relevant to Management Plan.
15	Will Greenbelt partner with Hesthaven Nature Center (Audubon Society of Corvallis) and other local environmental educational interests at Bald Hill Farm?	Hesthaven Nature Center is not specifically identified in the Management Plan, but there is a range of options for environmental education and opens possibility for extensive partnerships. Objective 6c (Outdoor Education and Learning Opportunities) establishes access for outdoor education. Objective 9c (Education) recommends partnering with local educational institutions and organizations to plan for and utilize BHF as a site for outdoor education and the Audubon Society of Corvallis has been added to the list of potential partners.
16	Management plan is too "plant centric" to the exclusion of a long list of birds and wildlife, and focused on "industrial restoration".	The plan includes some wildlife species as conservation targets and relies on a habitat approach in which habitat types are managed for a community of wildlife species. Bald Hill Farm is capable of providing suitable habitat for a variety of wildlife and plant species including special status plant species, many of which are already present in small numbers.
17	Make sure rerouted trail [parallel to road] will not disturb sensitive habitat.	Any new or relocated trails will be sited to avoid or minimize impacts to sensitive habitat, plants, or wildlife. Much of the rerouted trail would closely follow the roadway or be moved away from riparian habitat and not near known occurrences of sensitive plants or wildlife. Objective 6a (Recreational Trails) includes language related to avoiding sensitive natural areas when siting new or rerouted trails.

#	Comment	Staff Recommendation and Plan Response
18	Needs more baseline measures of bird species occurrence and seasonal use.	The conservation easement baselines includes extensive information on bird surveys. Bird surveys have been conducted at Bald Hill Farm for a number of years and a six point station count was conducted in 2010. BHF bird checklist is included as Appendix F.
19	Elimination through conversion of hardwood-dominated forest cover would diminish habitat that provides optimal habitat for a number of important Neotropical migrants and passerines including Cassin's Vireo, Hutton's Vireo, Black-throated Gray Warbler, Western Wood Pewee, Pacific-Slope Flycatcher, and Band-tailed Pigeon.	Mixed hardwood-conifer stands at BHF are on a trajectory of conifer dominance (and loss of hardwoods) in the absence of natural disturbance or active management. Objectives are to remove conifers and retain hardwood in stands that still have a dominant hardwood component and selectively thin conifers in stands in which conifers are subdominant and largely suppressed by conifers. Some stands will be converted to oak woodland and oak savanna, forest type that are in regional decline.
20	If transitioning stands towards fewer conifers and more open crown structure is projected towards mimicking the effect of fire, then those transitions should be done in an equally recessionary fashion, without the artificial transition from oak woodland directly to fir-dominated forest.	The transitions shown on the projected future conditions map work to maximize rare oak woodland and savanna habitats--recessionary transition would shrink the footprint of oak-dominated habitats. However, recessionary transitions may be incorporated into some stands but the relatively small size of the forest at Bald Hill Farm makes it challenging to include all priorities in all areas.
21	The plan should direct the prioritization of uses (restoration versus recreation, for example).	Conservation easements on the property direct a set of rules and parameters that ensure uses protect conservation values. Implementation priorities have been set for all proposed management actions that are contained within the Management Plan in support of the Conservation Values defined within the BPA and OWEB conservation easements.