



Bush Prairie Habitat Conservation Plan

Stakeholder Meeting, March 17, 2023

Welcome & Agenda

Meeting purposes:

- Re-introduce stakeholders to the HCP
- Background on HCP
- Walk through working draft HCP
- Discuss next steps





- **South Puget Sound Prairies**
 - Support many unique species
 - Extensively developed
 - Many potential conflicts between development and endangered species

- **Olympia Pocket Gopher**

- Endangered Species Act listing in 2014
- Most widespread of the protected prairie species in the City

Habitat and Protected Species



■ Other Listed Prairie Species

- Streaked Horned Lark
- Oregon Vesper Sparrow
- Both on Olympia Regional Airport

■ Oregon Spotted Frog

- Found primarily in wetlands and streams in the western half of the City associated with the Black Lake drainage system

**Habitat and
Protected
Species**



■ ESA Listing

- “Take” of animals or habitat requires a complex, costly, slow USFWS permit process
- Concludes with “Incidental Take Permit”
- Especially difficult and costly for individual landowners

Endangered Species Act Listing



- **Habitat Conservation Plan (HCP)**
 - Allows area wide permit for “take” administered by local municipality
 - Allows for higher quality and more efficient long-term species protection
 - Reduces uncertainty, costs, and delays for new development and redevelopment
 - Allows development envisioned by the City and Port to be built
 - Allows continued and ongoing maintenance of City and Port facilities

HCP – Benefits



■ Funding to Prepare HCP

- Federal HCP Planning Grants received in 2016 (Phase 1), 2018 (Phase 2), and 2023 (Phase 3) to prepare HCP
- Matched by City and Port funds
- Grant from U.S. Fish and Wildlife Service
- Administered by WA Dept. of Fish and Wildlife

**HCP –
Funding to
Prepare HCP**

February
2023

Working Draft HCP

Bush Prairie Habitat Conservation Plan

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- Posted to website <http://bushprairiehcp.org/>
- Informal public review through May 21, 2023
- City and Port not required to formally reply but will consider comments through April 21, 2023
- Please send comments to: bushprairiehcp@cascadiaconsulting.com
- Future formal public review through NEPA/SEPA process

Working Draft HCP

- 2 Permittees
 - City of Tumwater
 - Port of Olympia
- Permit Term
 - 30 years
- 4 Covered Species

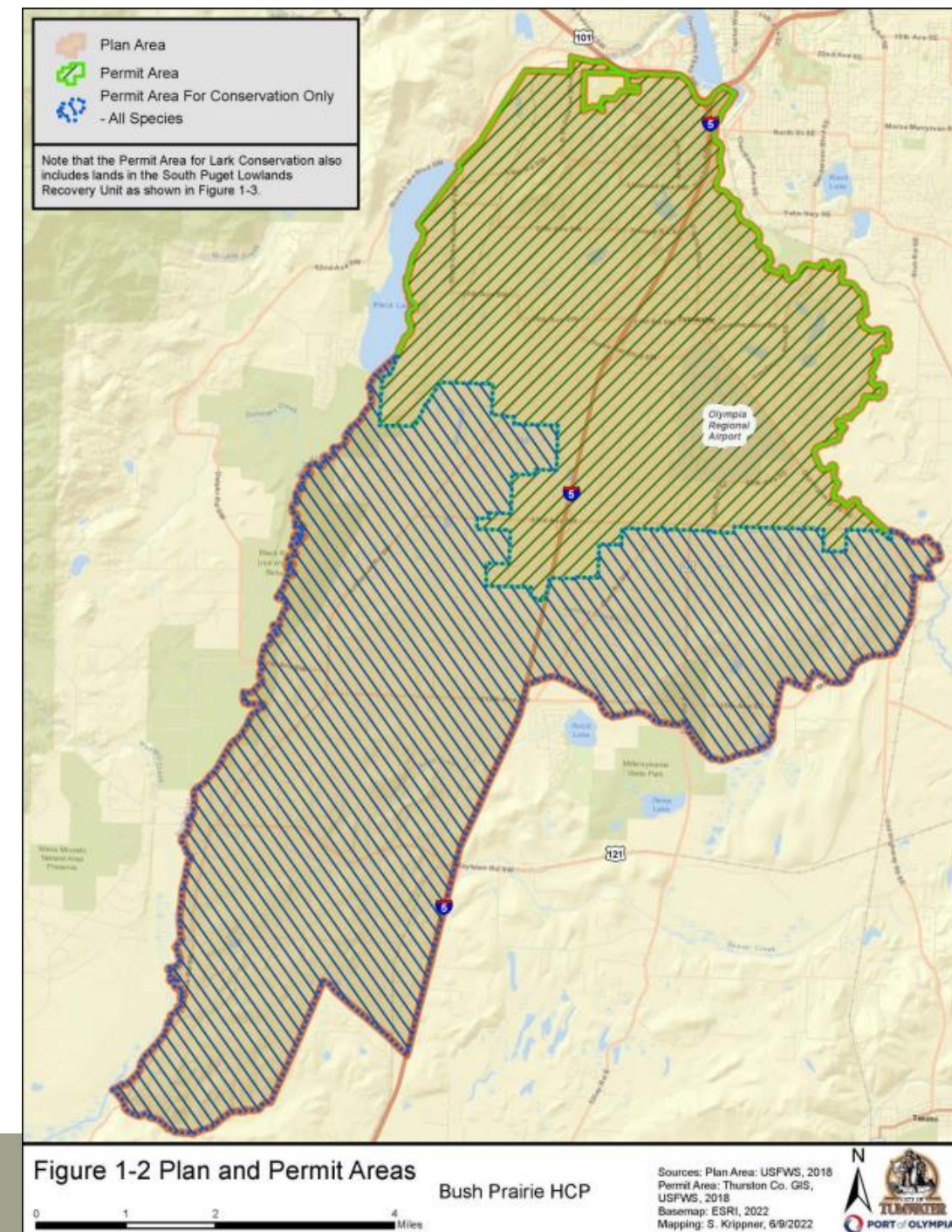


Chapter 1: Introduction (Scope)

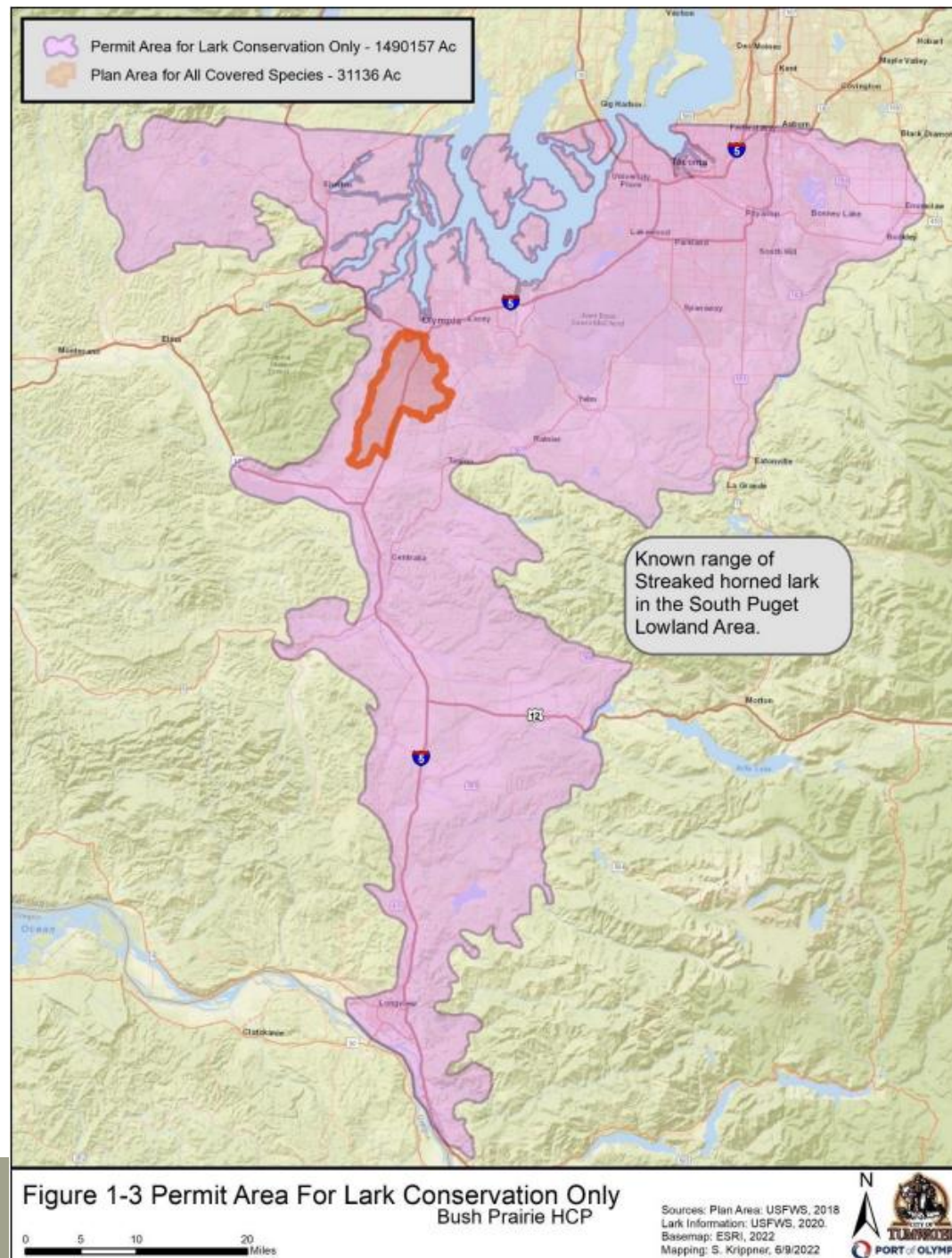
Common Name	Scientific Name	Status	
		Federal	State
Mammals			
Olympia pocket gopher	<i>Thomomys mazama pugetensis</i>	FT	ST
Amphibians			
Oregon spotted frog	<i>Rana pretiosa</i>	FT	SE
Birds			
Streaked horned lark	<i>Eremophila alpestris strigata</i>	FT	SE
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SCC--	SE

Chapter 1: Introduction (Geographic Scope)

- **Permit Area**
City of Tumwater
urban growth area,
west of the
Deschutes River
= 12,877 acres
- **Plan Area**
Olympia pocket
gopher range
= 31,136 acres



Chapter 1: Introduction (Geographic Scope)



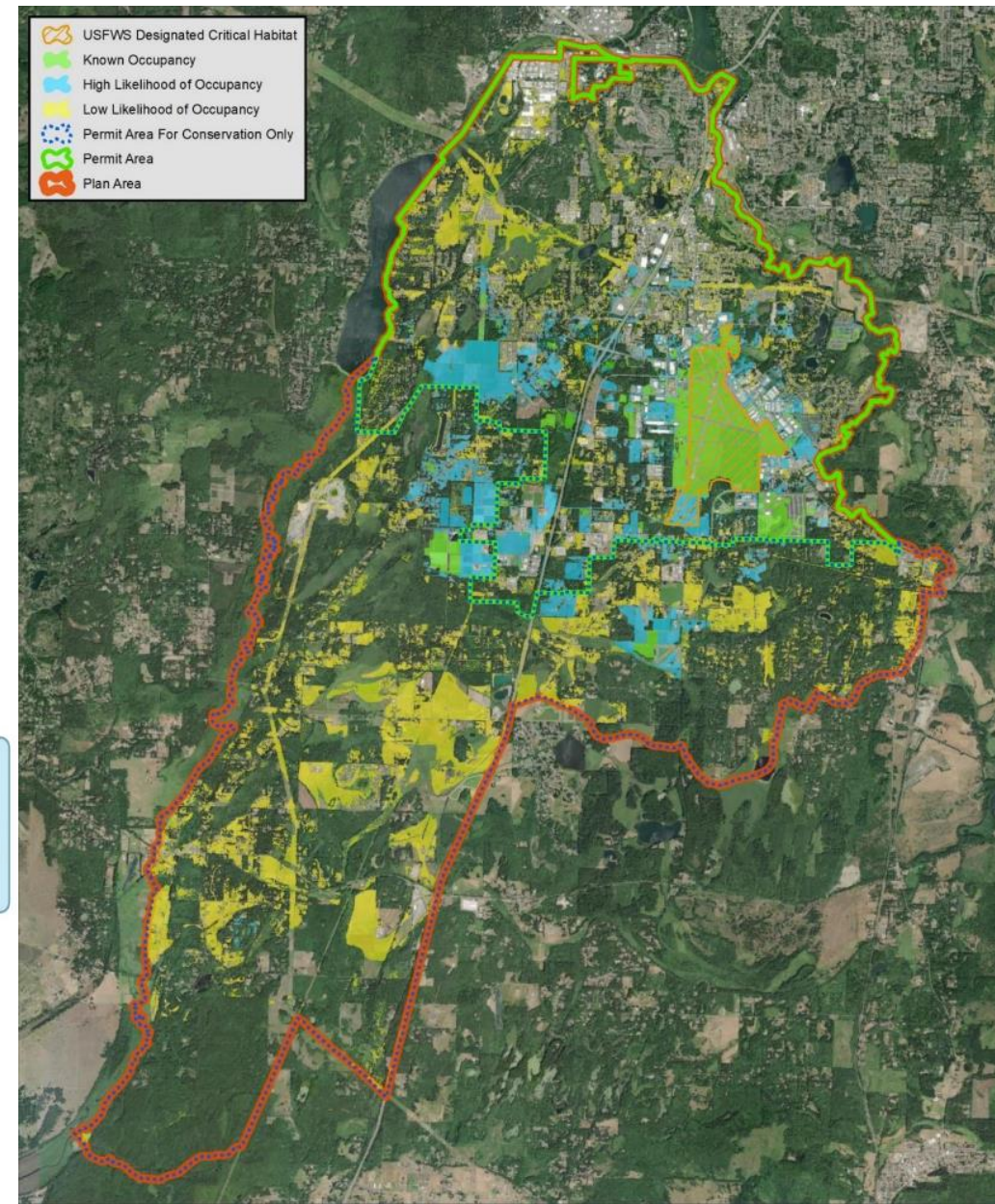
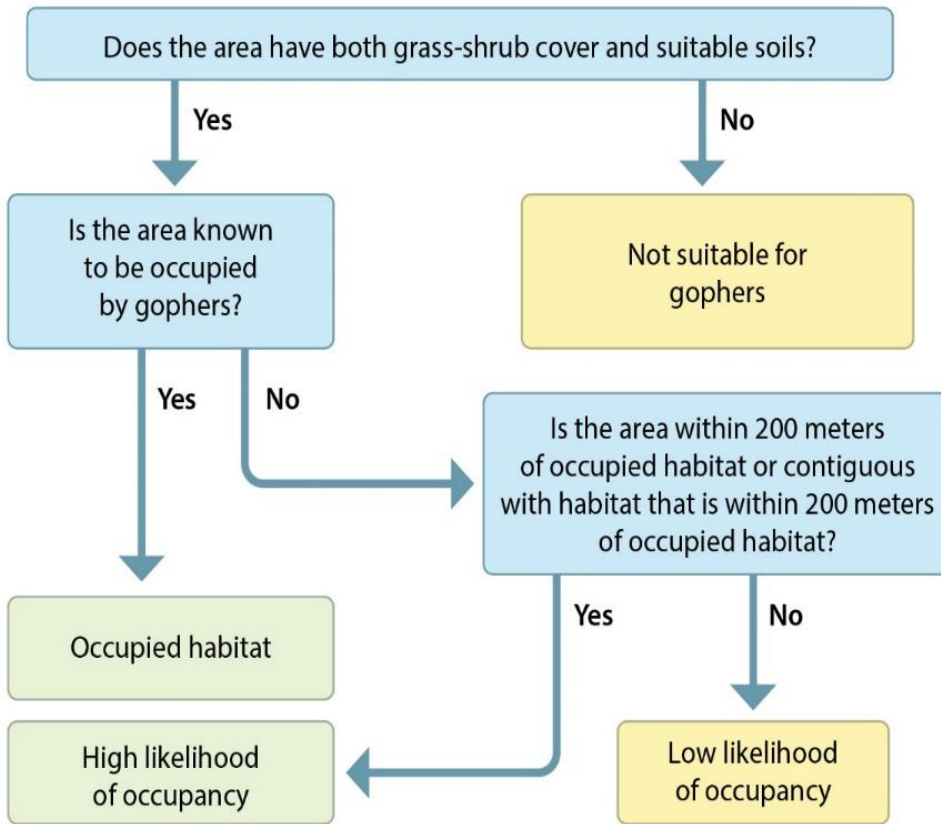
■ Permit Area for Streaked Horned Lark Conservation Only

Streaked Horned
Lark range in the
South Puget
Lowland Area

= 1.5 million acres



Olympia Pocket Gopher



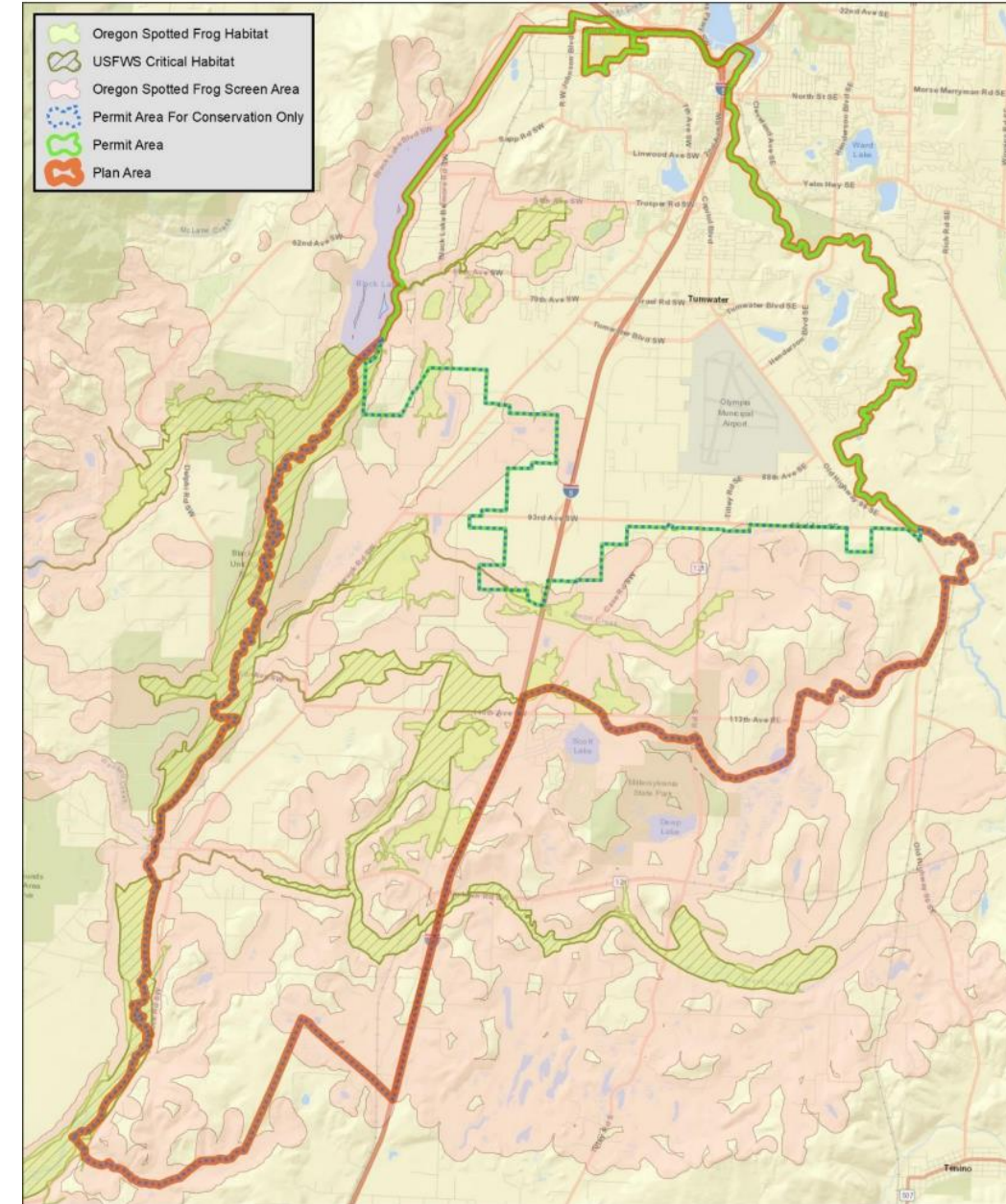
Chapter 2: Setting



Oregon Spotted Frog

Modeled Habitat

- Known occurrences
- + suitable habitat with hydrologic connectivity and species dispersal ability



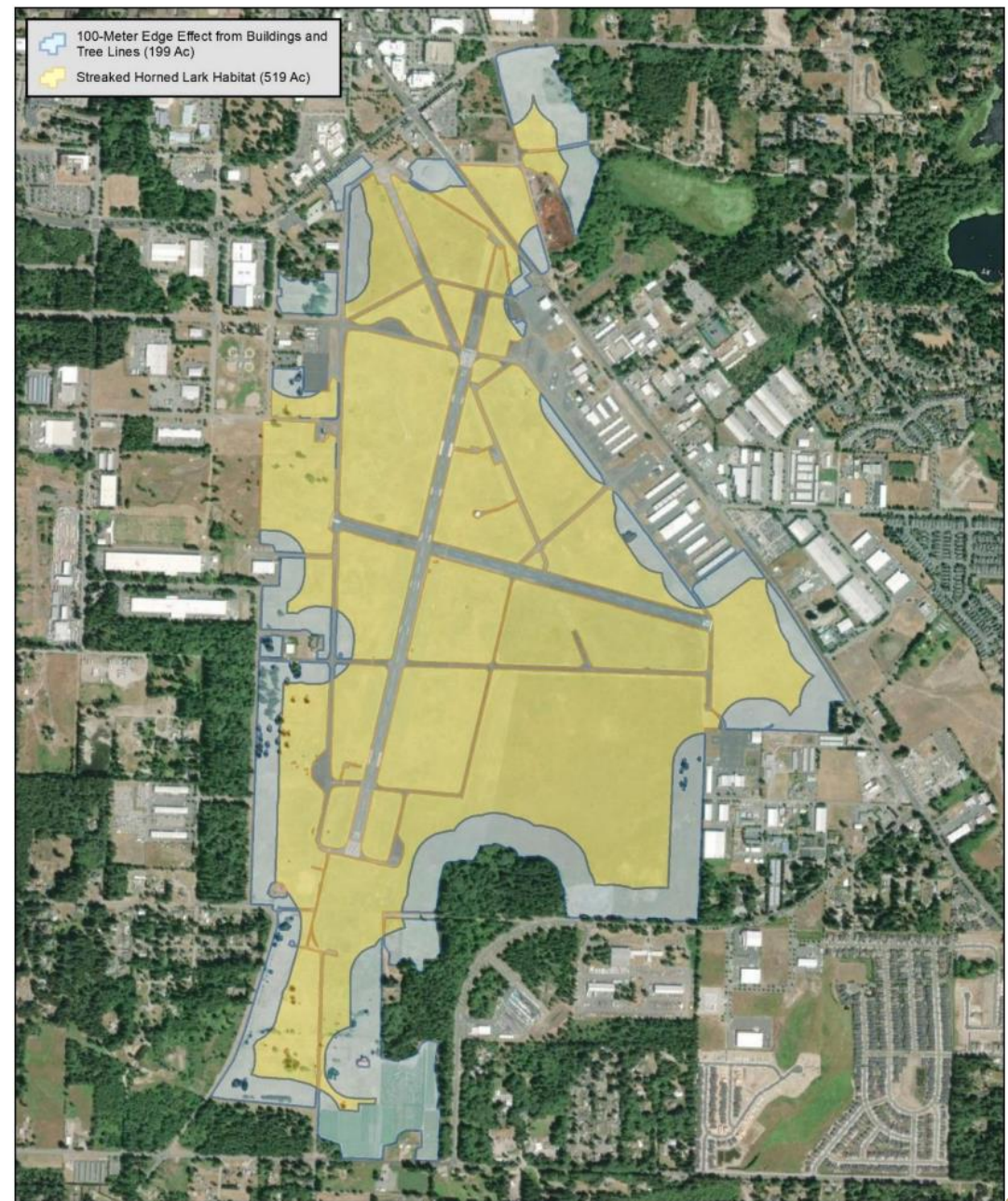
Chapter 2: Setting



Streaked
horned
lark

Modeled Habitat

- Known occurrences
- + adjacent lands with suitable short grassland vegetation
- Excluded “edge effect”: 100-m from buildings and tree lines (not individual trees)



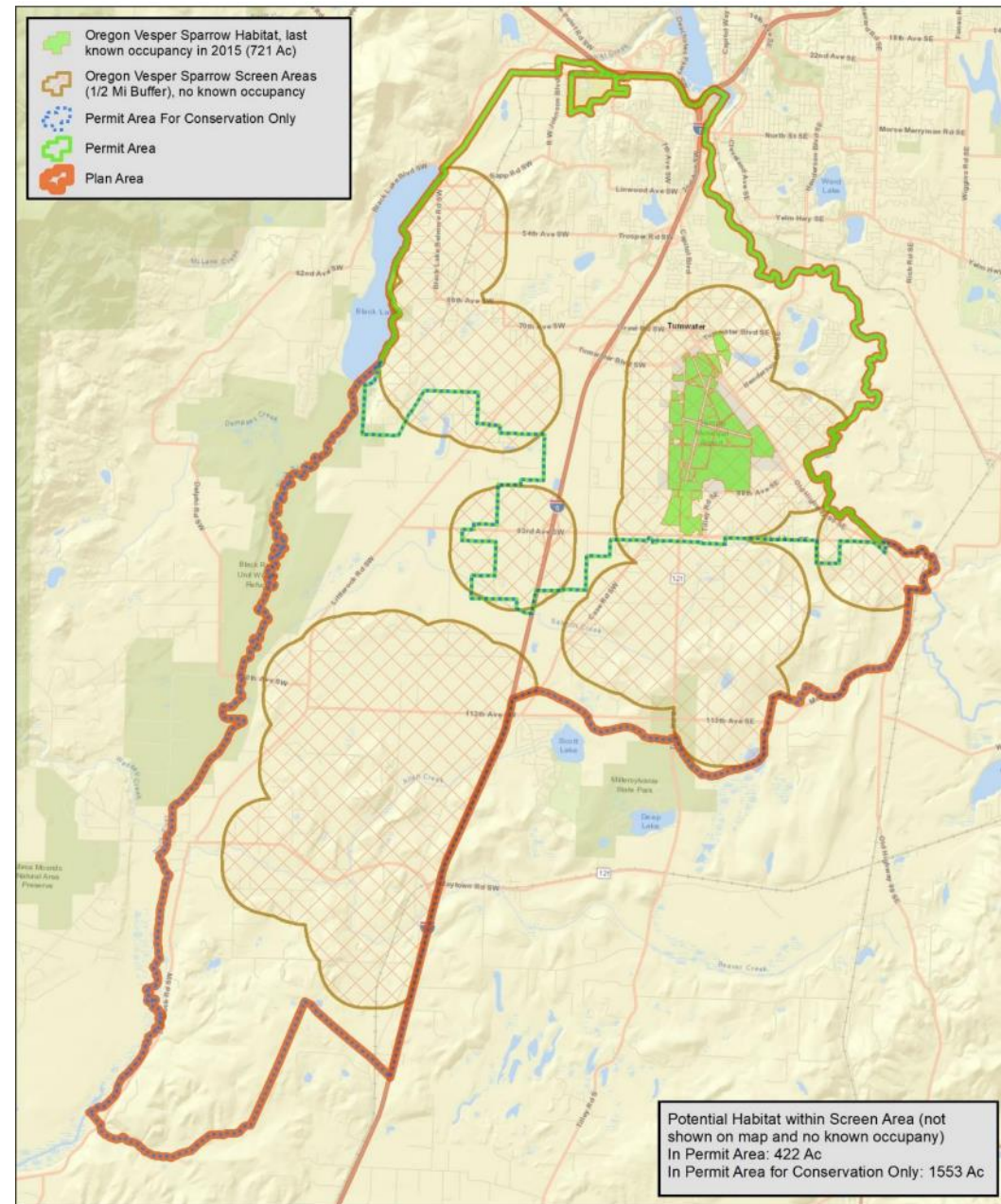
Chapter 2: Setting



Oregon vesper sparrow

Modeled Habitat

- Known occurrences
- + adjacent lands with suitable short grassland vegetation



Chapter 2: Setting

Chapter 3: Covered Activities

- **Urban Development**
- **Operations and Maintenance**
- **Aeronautical-Related Activities at Olympia Airport**
 - Funded partially or fully by FAA
 - Includes development and O&M of new and existing air-related infrastructure (e.g., new hangars, runways, terminals)
 - Includes annual Olympia Air Show
 - Excludes other flight-related activities
- **Non-Aeronautical Activities on Port Properties**
- **Conservation Strategy Implementation**



Chapter 4: Effects Analysis

- Estimated urban growth from Thurston Regional Planning Council
 - Forecasted over 30-year permit term
- Estimated development from Port of Olympia Master Plan
- Removed areas unlikely to develop
 - Development underway prior to permit
 - Mitigation lands
- Overlaid areas likely to develop with species habitat models

Chapter 4: Effects Analysis



Table 4-3. Maximum Allowable Permanent Effects on Habitat for Olympia Pocket Gopher

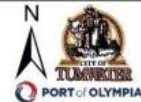
Modeled Habitat Type	Total Amount of Modeled Habitat in Plan Area (acres)	Maximum Amount Removed by Covered Activities (acres) ^a	Modeled Habitat Remaining in Plan Area Following Loss from Covered Activities (acres) ^b	Percent Lost During Permit Term
Occupied	1,014	277	737	27
Higher Likelihood of Occupancy	1,630	635	995	39
Lower Likelihood of Occupancy	4,360	597	3,763	14
Total	7,004	1,509	5,495	21

Chapter 4: Effects Analysis



Figure 4-1 Airport Area Projected Development in Olympia Pocket Gopher Habitat Bush Prairie HCP

Sources: Airfield Safety Zone, Projected Development: Port of Olympia, 2022. Occupancy Levels: Krippner Consulting, 2019. Basemap: ESRI, 2022. Mapping: S. Krippner, 11/8/2022



Chapter 4: Effects Analysis



Table 4-6. Maximum Permanent Impacts on Habitat for Oregon Spotted Frog

Modeled Habitat Type	Total Modeled Habitat in Plan Area (acres)	Maximum Loss of Modeled Habitat in Permit Area (acres) ^a	Total Habitat Remaining Following Modeled Habitat Loss from Covered Activities (acres) ^b	Percent Lost During Permit Term
Occupied Wetlands	2,654	20 ^c	2,634	0.7

Chapter 4: Effects Analysis



Table 4-8. Maximum Permanent Effects on Habitat for Streaked Horned Lark

Modeled Habitat Type	Total Amount of Modeled Habitat in Plan Area (acres)	Maximum Amount of Modeled Habitat Lost in Permit Area (acres) ^a	Amount of Modeled Habitat Remaining Following Projected Habitat Loss under HCP (acres)	Percent of Habitat Lost During Permit Term
Suitable Habitat	519	222	297	43

Chapter 4: Effects Analysis

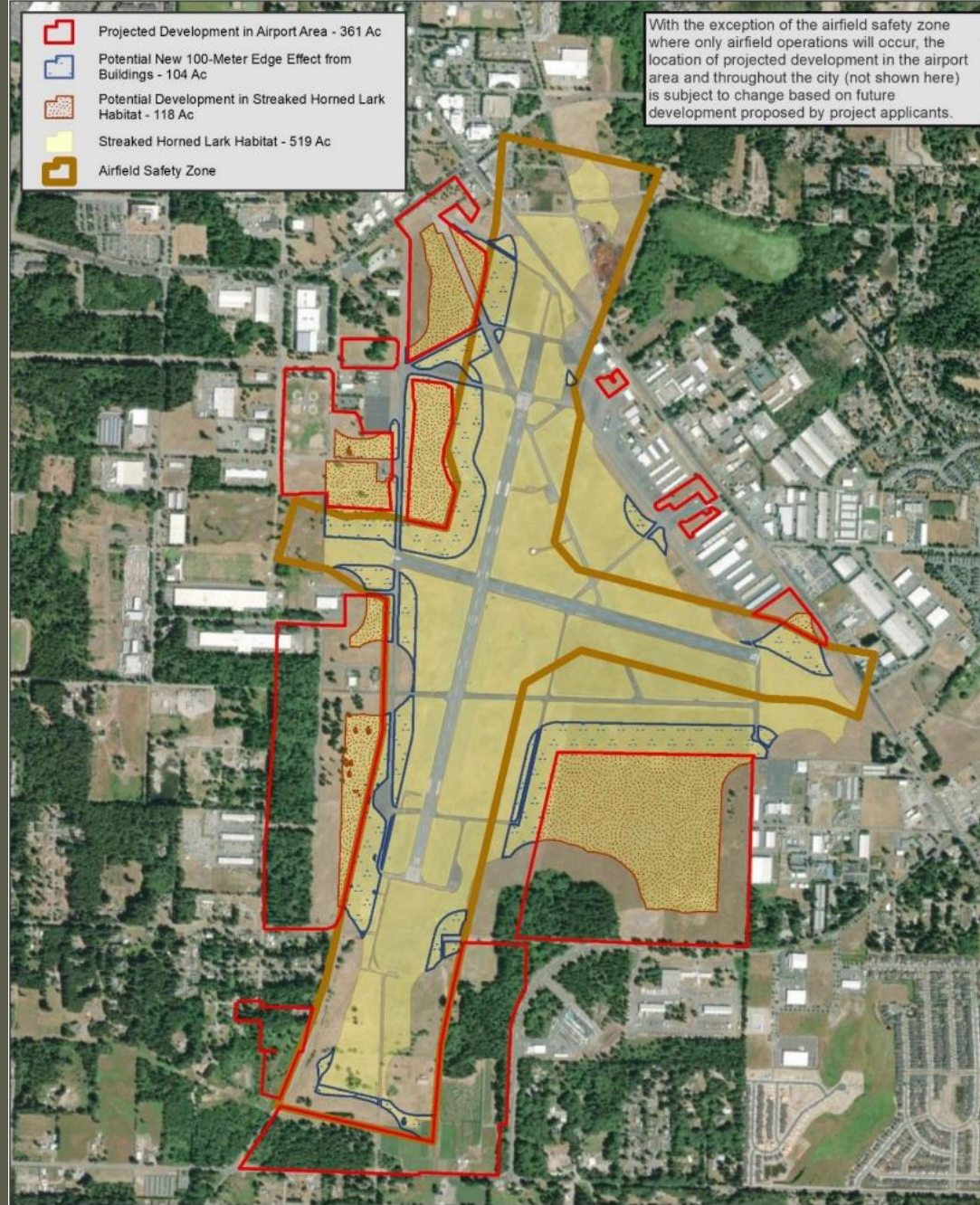
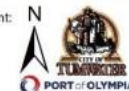


Figure 4-2 Projected Development in Streaked Horned Lark Habitat

0 750 1,500 3,000 Feet

Bush Prairie HCP

Sources: Airfield Safety Zone, Projected Development: Port of Olympia, 2022. Streaked Horned Lark Habitat: Krippner Consulting, LLC, 2022. Basemap: ESRI, 2022. Mapping: S. Krippner, 11/8/2022



Chapter 4: Effects Analysis



Table 4-10. Maximum Permanent Effects on Habitat for Oregon Vesper Sparrow

Modeled Habitat Type	Total Amount of Modeled Habitat in Plan Area (acres)	Maximum Amount of Modeled Habitat Lost in Permit Area (acres) ^a	Amount of Modeled Habitat Remaining Following Habitat Loss under HCP (acres)	Percent Lost During Permit Term
Oregon Vesper Sparrow Habitat	2,696	597	2,099	22

Chapter 4: Effects Analysis

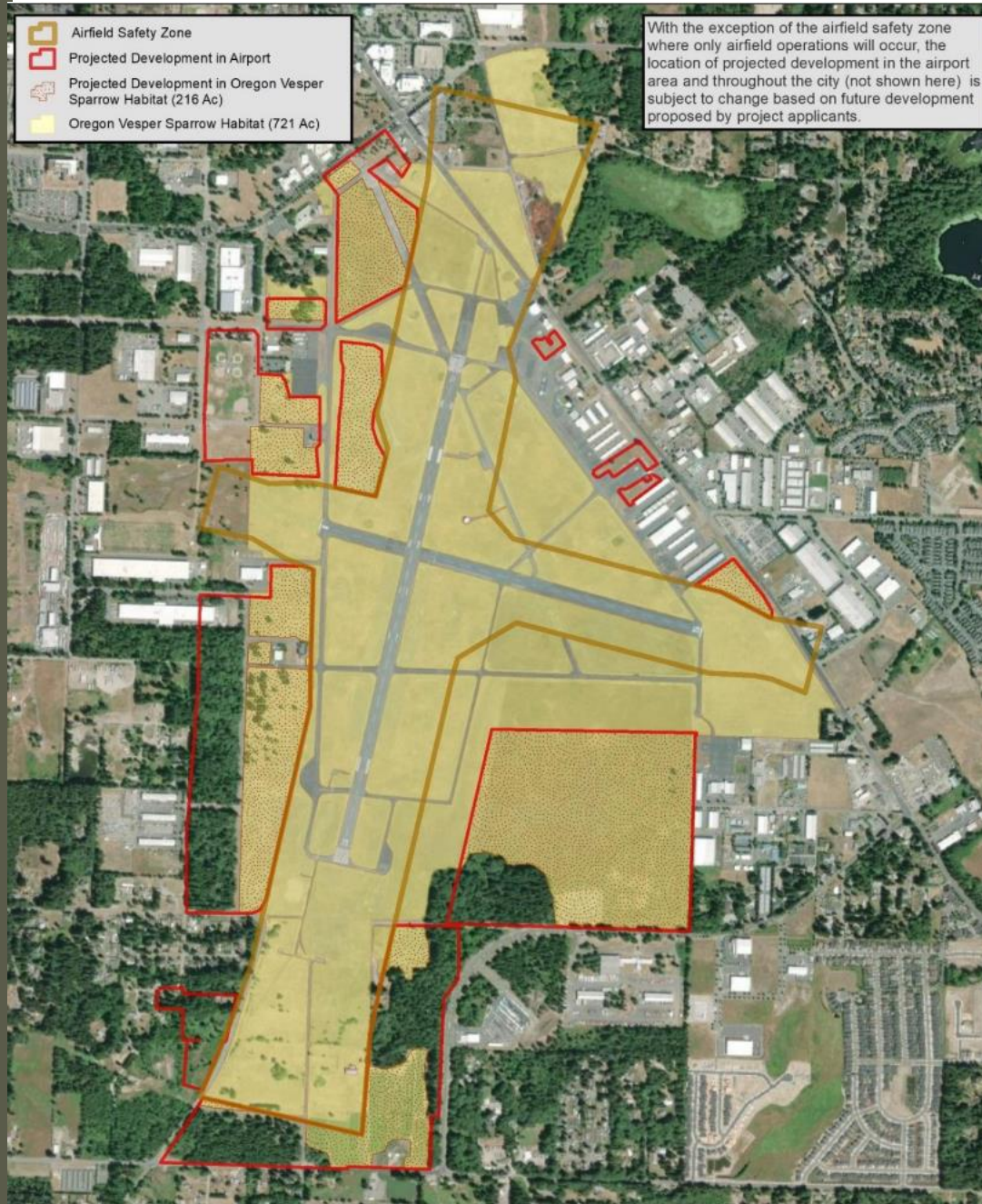


Figure 4-4 Projected Development in Oregon Vesper Sparrow Habitat

0 750 1,500 3,000 Feet

Bush Prairie HCP

Sources: Airfield Safety Zone, Projected Development: Port of Olympia, 2022. Oregon Vesper Sparrow Habitat: Krippner Consulting, 2022. Basemap: ESRI, 2022. Mapping: S. Krippner, 11/8/2022



Olympia Pocket Gopher

Biological Goal 1: Provide mitigation for permanent and temporary impacts on Olympia pocket gopher habitat that contributes to the recovery of the species.

- **Biological Objective OPG1:** Permanently protect and manage Olympia pocket gopher habitat within the Plan Area as needed to mitigate permanent and temporary impacts from covered activities (see methodology in Section 5.5.1, *Conservation Action 1: Establish and Manage a Prairie and Wetland Reserve System*).
- **Biological Objective OPG2:** Maintain no less than 60% of the total acres in the Reserve System as occupied habitat at any given time. Any unoccupied Reserve System lands will be enhanced or restored to achieve occupancy by the end of the permit term, up to and including species translocation, once proven effective.
- **Biological Objective OPG3:** Minimize effects from operations and maintenance through BMPs for all covered activities.

Oregon Spotted Frog

Biological Goal 2: Retain Oregon spotted frog habitat in the Plan Area.

- **Biological Objective OSF1:** Minimize effects of new urbanization and associated infrastructure on existing Oregon spotted frog habitat.
- **Biological Objective OSF2:** Permanently protect, enhance, and/or restore Oregon spotted frog habitat within the Plan Area as needed to mitigate permanent and temporary impacts from covered activities and consistent with the Critical Areas Ordinance (CAO), which includes the option to buy equivalent credits at an approved Oregon spotted frog mitigation bank with a service area that includes the Permit Area. The City will prioritize breeding locations and their connection to deep water (e.g., movement corridors to summer and winter habitat).

Streaked Horned Lark

Biological Goal 3: Provide mitigation for permanent and temporary impacts on streaked horned lark habitat that contributes to the recovery of the species.

- **Biological Objective STHL1:** Maintain a baseline number of nesting pairs of larks at the Airport during the interim period as described in Appendix F, *Streaked Horned Lark Memorandum*.
- **Biological Objective STHL2:** Secure and maintain a mitigation site in the Permit Area for Streaked Horned Lark Only that is occupied by an average of 20 or more pairs of nesting larks for a period of 3 consecutive years.

Oregon Vesper Sparrow

Biological Goal 4: Expand available Oregon vesper sparrow nesting habitat in the Plan Area.

- **Biological Objective ORVS1:** Permanently protect and manage an equal number of acres of Oregon vesper sparrow nesting habitat within the Plan Area as needed to mitigate permanent and temporary impacts from covered activities. Habitat protection will be focused on areas where Oregon vesper sparrow are most likely to occur, mainly prairie edge areas where prairies are at least 20 acres in size.
- **Biological Objective ORVS2:** Monitor Reserve Lands for the presence of Oregon vesper sparrows and coordinate with conservation partners including USFWS and WDFW on species recovery efforts to ensure that suitable habitat is available for this species in the Plan Area during the Permit Term.

Chapter 5: Conservation Strategy

Conservation Actions

Conservation Action 1: Establish and Manage a Prairie and Wetland Reserve System

Conservation Action 2: Restore Prairie Habitat

Conservation Action 3: Minimize Effects in Wetlands and Restore Oregon Spotted Frog Habitat

Conservation Action 4: Fund Covered Species Translocation Research

Conservation Action 5: Best Practices to Avoid and Minimize Impacts

Conservation Action 1: Establish and Manage a Prairie and Wetland Reserve System

- Acquire, preserve, restore, and manage suitable/occupied habitat in perpetuity
- Offset the permanent loss of covered species habitat

Table 5-1. Land Acquisition Goals for Each Covered Species (acres), Assuming Maximum Impacts

Modeled Habitat	Total Maximum Permanent Impacts ^a	Estimated Protected Habitat for Permanent Impacts ^b	Total Maximum Temporary Impacts	Estimated Protected Habitat for Temporary Impacts ^b	Total Permanently Protected Habitat if Maximum Impacts Occur
Olympia pocket gopher	1,509	1,509	191	96	1,351-1,605 ^c
Oregon spotted frog	20 ^d	20	20 ^e	20	40 ^{e,f}
Streaked horned lark	222	222	45	23	150-300+ ^{g,h,i}
Oregon vesper sparrow	597	597	45	23	620 ^{g,h,i}

Chapter 5: Conservation Strategy

Functional Acres: Bush Prairie HCP vs. Thurston County HCP

HCP	Functional Acres uses Species Occupancy	Functional Acres uses Habitat Quality
Bush Prairie	Yes	No
Thurston County	Yes	Yes

Chapter 5: Conservation Strategy

Chapter 5: Conservation Strategy

Conservation Action 2: Restore Prairie Habitat

- Most Reserve System lands will be in either a native prairie condition or a high-quality native prairie condition by end of permit term
- Restoration to improve landscape connectivity and increase available habitat and habitat quality
- Prairie restoration achieved by:
 - Mowing
 - Herbicide Application
 - Livestock Grazing
 - Prescribed Burning
 - Tree Removal
 - Revegetation or special plantings
- **Goal:** Create more resilient local populations with more and larger populations that are more resistant to stochastic events such as disease or predation



Conservation Action 3: Minimize Effects in Wetlands and Restore Oregon Spotted Frog Habitat

- All covered activities in wetland habitats will minimize disturbance to and loss of Oregon spotted frog habitat
- Includes indirect effects from draining to frog habitat through implementation of:
 - City's **Critical Areas Ordinance** for wetlands (Tumwater Municipal Code [TMC] Chapter 16.28, Wetland Protection Standards)
 - City's **Critical Areas Ordinance** for fish and wildlife habitat protection (TMC Chapter 16.32, Fish and Wildlife Habitat Protection)
 - City's **Stormwater Management Program Plan**
- Projects with unavoidable impacts on frog habitat must restore wetlands consistent with TMC requirements to ensure no net loss

Chapter 5: Conservation Strategy

Chapter 5: Conservation Strategy

Conservation Action 4: Fund Covered Species Translocation Research

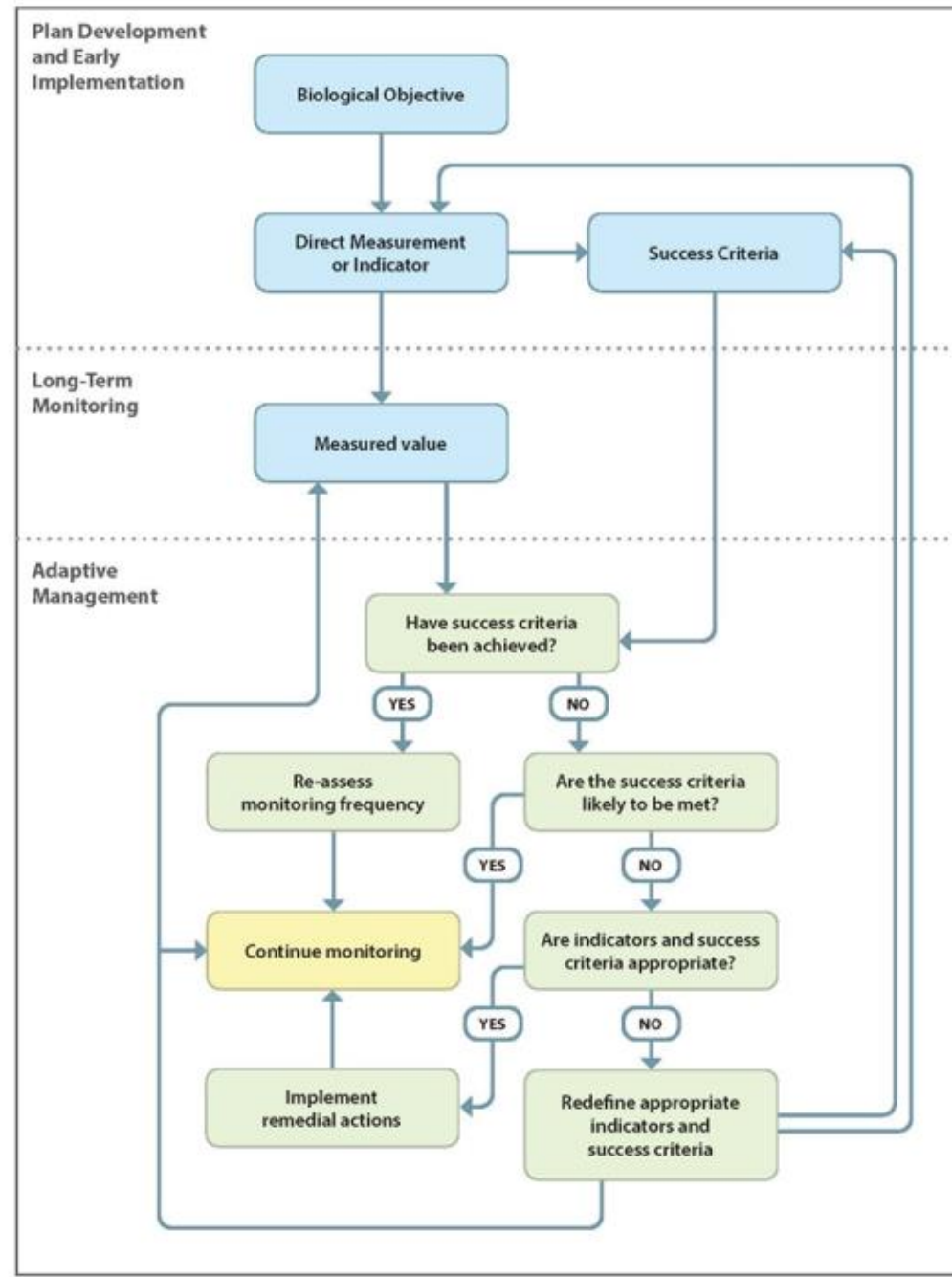
- In some cases, natural colonization of Reserve System by covered species may not be possible, even with habitat management
- **Translocation** of covered species onto Reserve System lands could be important
- If successful, would increase resilience of covered species by increasing number of occupied sites
- HCP mitigation includes funding research into feasibility and techniques of translocation, if covered species not readily colonizing on their own
- Experimental translocation within first 10 years of HCP implementation, if needed

Chapter 5: Conservation Strategy

Conservation Action 5: Best Practices to Avoid and Minimize Impacts

- 19 Best Management Practices to avoid and minimize impacts on covered species
- Apply to all covered activities in covered species habitat
- Examples For Olympia Pocket Gopher
 - Minimize work and areas of disturbance in areas with obvious gopher mounding activity.
 - Avoid soil-disturbing activities more than one foot deep between the dates of March 1 and July 15 because this coincides with the breeding season and mothers with young will not be able to move out of the way of danger.
- Examples For Streaked Horned Lark
 - Avoid personnel and vehicle activities in known lark nesting areas from March 15 to August 31 annually.
 - Coordinate approved dissuasion activity/procedures in advance of any anticipated project activity planned from March 15 to August 31 annually. Examples include vertical visual obstructions (orange snow fence, construction barriers, increased grass height) or grading/ground clearing to eliminate vegetation.

Chapter 6: Monitoring and Adaptive Management



Monitoring program generates data to assess compliance and verify progress toward achieving biological goals and objectives (effectiveness)

Adaptive management programs are included in large, programmatic HCPs to address long-term uncertainty

Proposed Conservation Actions can be **modified** in response to new information within adaptive management framework

Chapter 6: Monitoring and Adaptive Management

Table 6-1. Success Criteria for Olympia Pocket Gopher and Oregon Vesper Sparrow

	Olympia Pocket Gopher		Oregon Vesper Sparrow		
	Shrub/Tree Cover ^{b,c,d}	Native Herbaceous Cover ^b	Shrub/Tree Cover ^b	Native Herbaceous Cover ^b	Cover of Veg. between ~ 6–20 inches in Height during May
Shrub Dominated ^a	Shrub cover >25%; Tree cover <5%	--	Shrub cover >50%; Tree cover <5%	--	<50%
Degraded Grassland ^a	Shrub cover <25%; Tree cover <5%	<10%	Shrub cover >30%; Tree cover <5% or 15–25%	<10%	<50%
Native Prairie ^a	Shrub cover <10%; Tree cover <5%	10–30%	Shrub cover <30%; Tree cover <5% or 15–25%	10–30%	50–75%
High-Quality Native Prairie ^a	Shrub cover <10%; Tree cover <5%	>30%	Shrub cover <15%; Tree cover <5%	>30%	>75%

Chapter 6: Monitoring and Adaptive Management

Table 6-2. Success Criteria for Streaked Horned Lark

Metric	Success Criteria
% Cover of bare ground, moss, lichens, and/or grassland <12 inches high	> 60% across the site and > 80% in nesting areas
% Cover of plant species on the state or county noxious weed list	<5%
% Cover of woody vegetation	<5% tree canopy and <10% shrub cover across the site

Table 6-3. Success Criteria for Oregon Spotted Frog

Metric	Success Criteria
% Cover of Native Emergent and Submergent Vegetation	20%, 30%, 50%, and 65% cover at years 3, 5, 7, and 10, respectively
% Native Shrub Cover (Wintering Habitat)	5-10% cover of clumped native shrubs at years 5, 7, and 10
% Cover Emergent Vegetation (Breeding Habitat)	10%, 50%, 50%, and 80% cover at years 3, 5, 7, and 10, respectively, of emergent vegetation in shallow (no more than 12”) water in breeding habitat
Open Water Depth	Open water with maximum 12” water during breeding season at years 3, 5, 7, and 10

Chapter 6: Monitoring and Adaptive Management

Table 6-5. Adaptive Management Matrix

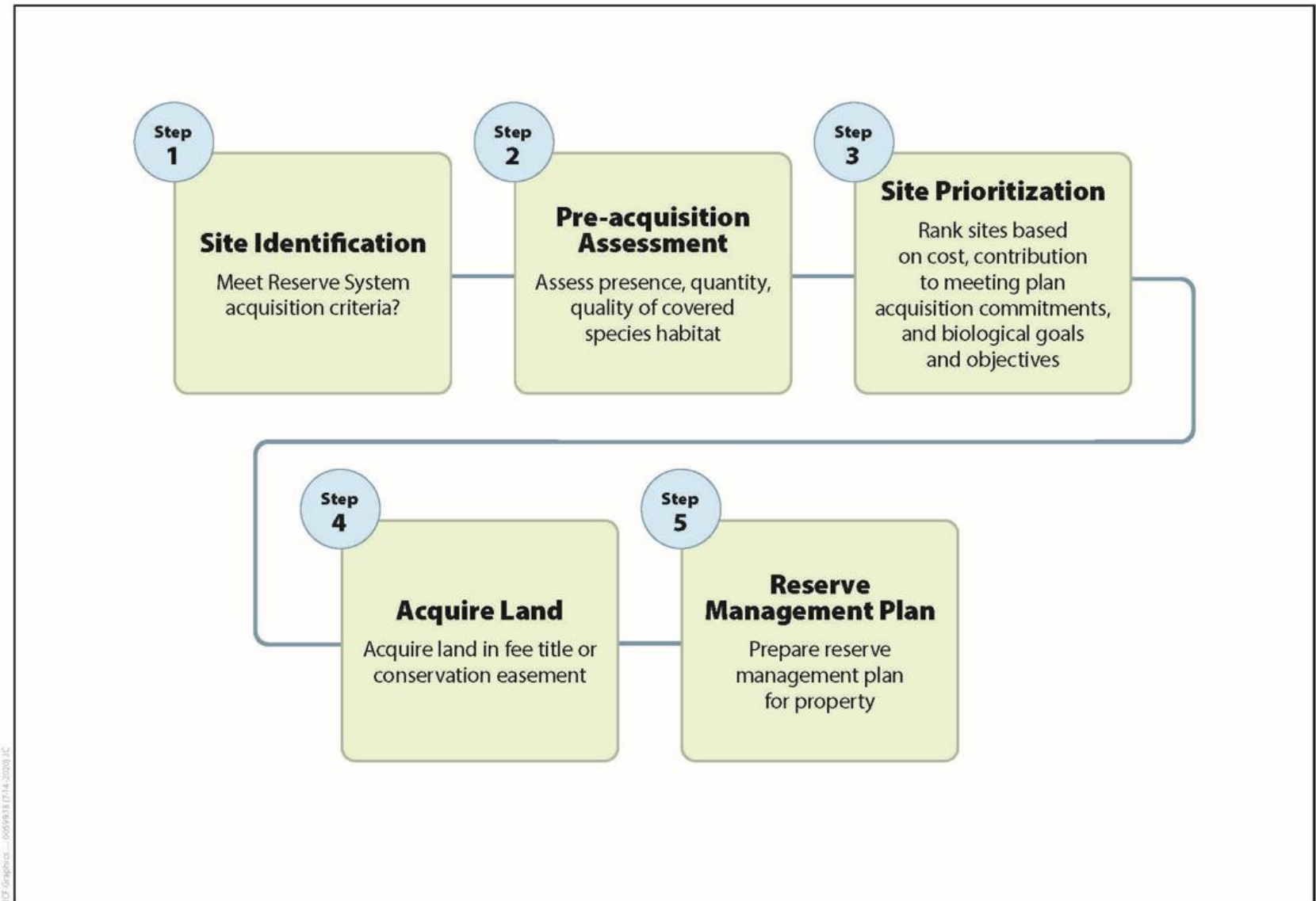
Key Uncertainty	Monitoring Attribute	Trigger per Monitoring Period	Actions Considered and Implemented
Habitat restoration and management of high-quality status	Changes in prairie condition (i.e., degraded, native, or high-quality native) or wetland condition.	Native prairie or wetland vegetation cover decreases by >10% or woody cover increases by >10%	Evaluate and adjust site management to increase habitat quality to meet performance standards.
Species population maintenance and growth	Occupied area estimates for Olympia pocket gopher; egg mass count for Oregon spotted frog; population estimates and/or nest # for streaked horned lark and Oregon vesper sparrow	Occupied area for Olympia pocket gopher decreases by >25%; egg mass count for Oregon spotted frog decreases by >25%; population estimates or nest # for streaked horned lark and Oregon vesper sparrow decline by >25%	Evaluate trends at sites and consider revision to habitat management prescriptions within site management plan(s) based on BAS.
Control and management of new or existing invasive plant or animal infestations	Invasive plant species cover or animal population estimate	New invasive species population discovered, or >10% increase in abundance of existing population of invasive species	Eradication efforts may be required with treatment results monitored in subsequent months and years.
Effectiveness of grazing as a prairie management tool	Assessment of grazed lands and prairie condition, including soil compaction and vegetation characteristics	Native prairie or wetland vegetation cover decreases by >10% or woody cover increases by >10%, level and or extent of soil compaction from grazing	Evaluate grazing plan with site manager, change timing, frequency, and intensity of grazing operations.
Natural disturbances	Tracking the timing, extent, and type of natural disturbances	Obvious degradation of habitat due to unplanned fire, drought, windfall, erosion or change in hydrology	Evaluate timing and severity of disturbance; allow natural regeneration or conduct remedial site management actions such as replanting; determine if changes to site management plan are needed.
Unauthorized human use or disturbance	Tracking of site conditions and human-caused disturbances (e.g., trespassing)	Any signs of unauthorized use, including new trails, camping, or other trespass	Evaluate management of public use, and revise outreach (including interpretive signs), increase monitoring and management of access points as needed.
Gopher translocation	Occurrence and status of gophers at translocation sites	Gophers do not persist at translocation sites	Evaluate translocation methods and adjust methods as necessary to improve likelihood of

Chapter 7 Components

- 7.2 Implementation Roles and Responsibilities
 - City/Port, USFWS, FAA
- 7.3 Covered Activity Application Process
- 7.4 Participating Special Entity
- 7.5 Process for Acquiring Reserve System Lands
- 7.6 Stay Ahead Provision
- 7.7 Alternative Means of Mitigation
- 7.8 Durability of Reserve System Lands
- 7.9 Tracking Compliance
- 7.10 Annual Reporting
- 7.11 Assurances
 - 7.11.1.1 Federal No Surprises
 - Changed circumstances
 1. Covered species delisted
 2. Covered species uplisted
 3. Involuntary loss of Land within Reserve System

Chapter 7: Implementation

Chapter 7: Implementation



ICF Graphics... 00999.18 (7/14/2020) JC



Figure 7-1
Land Acquisition Process

Chapter 8: Costs and Funding

Cost Categories

- Plan administration (incl. reporting)
- Mitigation land acquisition
- Land management and habitat restoration
- Monitoring and adaptive management
- Olympia pocket gopher research
- Endowment (funds land management in perpetuity)

HCP Costs and Habitat Conversion Fee

	Average Annual Costs	Cumulative 30-Year Costs
Plan Administration	\$57,585	\$1,813,928
Mitigation Land Acquisition	\$1,696,443	\$50,893,291
Land Management and Habitat Restoration	\$412,312	\$12,369,373
Monitoring and Adaptive Management	\$333,460	\$10,003,810
Olympia Pocket Gopher Research	\$20,000	\$200,000
Endowment	\$488,314	\$14,649,422
Total	\$2,994,782	\$89,929,823
<i>Total Acres Impacted</i>		<i>1,529</i>
<i>Cost Per Acre of Impact (Habitat Conversion Fee)</i>		<i>\$58,816</i>

**Note: Based on 2021 dollars. We will be updating the cost model in 2023 to account for inflation in 2022

Chapter 8: Costs and Funding

Funding Sources

1. Habitat Conversion Fee
 - Charged on amount of modeled habitat lost on-site
 - Calculation varies by scenario (next slide)
2. Land dedicated by project proponents
3. Other funding sources

Habitat Conversion Fee

- Pays for all HCP costs, including endowment
- Fee calculation varies by construction scenario
 1. No habitat or where covered activity avoids species habitat
 - No fee
 2. Construction of addition or accessory structure
 - Fee multiplied by covered habitat lost or disturbed, regardless of parcel size
 3. New development on parcels 1.0 acre or less
 - Any habitat loss will be considered total loss
 - Fee multiplied by all covered species habitat in parcel
 4. New development on parcels larger than 1.0 acre
 - Fee applied to amount of covered species habitat lost
 - Minimum of 1.0 acre multiplied by fee

What's Next?

- Next stakeholder meeting April 21
- Comments on Public Draft due May 21
- City and Port will review comments
- Continue coordination with USFWS, WDFW
- Revise HCP
- Begin NEPA/SEPA analysis
- Formal public review (Summer or Fall)
- Complete HCP, receive federal permit
- Begin HCP implementation
- Please send comments and questions to:
 - bushprairiehcp@cascadiaconsulting.com
 - Submit comments by May 21, 2023



Comments? Questions?

Stakeholder Meeting, March 17, 2023