



Memorandum

To: Brad Medrud Rachael Jamison
 City of Tumwater Port of Olympia

From: Chris Earle, Project Manager, ICF

Date: December 8, 2016

Re: Bush Prairie Habitat Conservation Plan: Selection of Covered Species

This memorandum describes the process used to select species proposed for coverage under the Bush Prairie Habitat Conservation Plan (HCP), and identifies a proposed list of covered species.

Identifying Species for Consideration

The study area for the HCP is defined as those areas where covered activities would occur, and those areas where mitigation would be sited. As such the study area is different from the plan area, which is defined (in the draft revised HCP Handbook) as the distribution of the covered species; and from the permit area, which is defined as the area where covered activities would occur. There can be no clear demarcation of the plan area or the permit area area until the covered species list has been determined. The study area addressed in this memorandum includes the range of the Olympia pocket gopher; all areas within the City of Tumwater Urban Growth Area (UGA); and prairie lands in Thurston and Lewis counties that could provide suitable mitigation sites (recognizing that, at least for the streaked horned lark, we might have to go as far as Lewis County to find a suitable mitigation site).

A number of planning exercises have occurred to identify sensitive species that may warrant coverage under the HCP. These include the list of species proposed for coverage in the Thurston County HCP, the list included in the Section 6 grant proposal for the Bush Prairie HCP, and the USFWS list of special-status species in the county. These lists collectively define the species could benefit from coverage under the Bush Prairie HCP (Table 1). Those species were further evaluated using several covered species selection criteria.

Selection Criteria

The species proposed for coverage have been evaluated using the following criteria. To be covered, species must meet all four criteria.

- **Special Status.** The species falls into one of the following categories 1) listed under the federal Endangered Species Act (ESA) as threatened or endangered, or proposed for listing, 2) listed by the Washington Department of Fish and Wildlife (WDFW) as threatened or endangered, or 3) has an appreciable probability of becoming listed under ESA within the proposed permit term (30 years). The potential for listing during the proposed 30-year permit term is based on current listing status, consultation with experts and wildlife agency staff, evaluation of species population trends and threats, and best professional judgment.



- **Range.** The species is known to occur or is expected to occur within the study area based on a review of species locality and range data, a review of literature, and input from species experts. We also considered the possibility that species not currently known in the study area could appear there at some time later during the permit term, through range expansion or introduction to suitable habitat created at mitigation sites.
- **Impact.** There is a substantial risk that the species would experience incidental take due to covered activities, i.e., by City or Port development or maintenance, or by activities involved in managing mitigation sites. This assessment is based on professional judgement and current understanding of the City and Port expectations about which activities will be covered under the HCP.
- **Knowledge.** Sufficient scientific data exist on the species' life history, habitat requirements, and occurrence in the study area to adequately evaluate impacts on the species and to develop conservation measures to mitigate these impacts to levels specified by regulatory standards.

In addition to the four criteria discussed above, the overall feasibility and potential cost of conserving each species is considered. For example, if an alternative ESA compliance pathway is available via a Section 7 consultation, and if covered activities may rarely or never affect a given species, then it is probably both easier and less costly to omit the species from the HCP.



Table 1. Evaluation of Species Considered for Coverage in the Bush Prairie HCP

Species	Status (Federal / State)	Range	Impact	Knowledge	Feasibility	Conclusion
Olympia pocket gopher ^{1,2,3} <i>Thomomys mazama pugetensis</i>	YES: Threatened / Threatened	YES: Soil types characteristic of existing or former prairie habitats in southern Tumwater extending south into Thurston County.	YES: Take of animals and loss of habitat are likely to occur due to City and Port development plans. Take is also possible on mitigation lands.	YES: WDFW and USFWS survey data (WDFW 2016)	Moderately feasible: Constrained range of this subspecies in areas zoned for development presents conservation challenges (USFWS 2014), and there are liability concerns with changing zoning based only on presence of a species or suitable habitat.	Definitely cover. Take will occur.
Roy Prairie Pocket Gopher ³ <i>Thomomys mazama glacialis</i>	YES: Threatened / Threatened	YES: Soil types characteristic of existing or former prairie habitats in parts of Thurston County, but not within Tumwater UGA.	YES: However, take is only possible if it occurs on mitigation lands. It is very unlikely that mitigation lands would be sited within the range of this species.	YES: USFWS (2016), WDFW (2016)	Feasible: Species will only occur at mitigation sites, and only if they already provide suitable habitat.	Cover if, and only if, it occurs on mitigation lands.
Tenino Pocket Gopher ³ <i>Thomomys mazama tumuli</i>	YES: Threatened / Threatened	YES: Soil types characteristic of existing or former prairie habitats in parts of Thurston County, but not within Tumwater UGA.	YES: However, take is only possible if it occurs on mitigation lands. It is very unlikely that mitigation lands would be sited within the range of this species.	YES: USFWS (2016), WDFW (2016)	Feasible: Species will only occur at mitigation sites, and only if they already provide suitable habitat.	Cover if, and only if, it occurs on mitigation lands.
Yelm Pocket Gopher ³ <i>Thomomys mazama yelmensis</i>	YES: Threatened / Threatened	YES: Soil types characteristic of existing or former prairie habitats in parts of Thurston County, but not within Tumwater UGA.	YES: However, take is only possible if it occurs on mitigation lands. It is very unlikely that mitigation lands would be sited within the range of this species.	YES: USFWS (2016), WDFW (2016)	Feasible: Species will only occur at mitigation sites, and only if they already provide suitable habitat.	Cover if, and only if, it occurs on mitigation lands.
Western gray squirrel ^{1,2}	YES: None / Threatened	NO: Deciduous (mainly oak) forest and woodland in Washington.	NO: Take unlikely because habitat (large interconnected canopy forest with sparse understory) for this species is lacking in Tumwater and will not be provided on mitigation lands.	YES: Wiles (2015)	Low feasibility: The time it would take to create suitable habitat in Tumwater is long, relative to the scope of the anticipated HCP term.	Do not cover. Low risk of take and mitigation is not feasible.
Streaked horned lark ^{1,2,3} <i>Eremophila alpestris strigata</i>	YES: Threatened / Endangered	YES: Exceptionally flat, open grassland habitats in Western Washington and Oregon.	YES: Take of animals may occur and loss of habitat is likely to occur due to airport operations and Port development on airport lands. Take is also possible on mitigation lands.	YES: WDFW (2016); Mead and Hunt (2013)	Moderately feasible: Species requires large, open habitats that are rare in the study area, so mitigation will likely need to be sited in a distant location (i.e., not within the City or its UGA).	Definitely cover. Take is likely to occur.
Oregon vesper sparrow ^{1,2}	YES: None / Candidate, but has an appreciable listing risk	YES: Breeding has been known to occur at the Olympia Airport. Other suitable habitat may occur nearby.	YES: Could be taken by City or Port development, maintenance, or at mitigation sites.	YES: Knowledge is currently quite limited, but USFWS staff advises that coverage is feasible. Mead & Hunt (2013); WDFW (2012a); WDFW (2016)	Feasible: There are opportunities to conserve habitat for this species at mitigation sites.	Definitely cover. High risk of take if listed, although listing is uncertain. Mitigation is feasible.
Slender-billed	YES: None /	NO: Oak forest habitats in Baja	NO: Take unlikely because habitat (oak forest) for	YES: WDFW	Not feasible: The time it would take to create	Do not cover. Low risk of take and mitigation is not



Species	Status (Federal / State)	Range	Impact	Knowledge	Feasibility	Conclusion
white-breasted nuthatch ^{1,2}	Candidate, but has an appreciable listing risk	California, California, Oregon, Washington.	this species is lacking in Tumwater.	(2012b)	oak habitat in Tumwater is long relative to the 30-year term of the HCP.	feasible.
Yellow-billed cuckoo ³ <i>Coccyzus americanus</i>	YES: Threatened / Candidate	NO: Breeds and forages primarily in dense shrub-scrub wetland, in western US, southwestern Canada, and western Mexico.	NO: Take due to loss of breeding habitat (forest and shrubby areas near streams and rivers) is not likely to occur in Tumwater.	YES: WDFW (2012c)	Not feasible: This wide-ranging species may not be present in Thurston County and does not use open grassland habitats.	Do not cover. Low risk of take and mitigation is not feasible.
Oregon spotted frog ^{1,2,3} <i>Rana pretiosa</i>	YES: Threatened / Endangered	YES: Specialized wetland habitats at rare locations in California, Oregon, Washington, British Columbia.	YES: Species and habitat may be taken by development in Tumwater and may occur at mitigation sites.	YES: WDFW (2016)	Moderately feasible: There are opportunities to conserve habitat for this species at some potential mitigation sites.	Definitely cover. High risk of take and mitigation is feasible.
Western toad ² <i>Anaxyrus boreas</i>	NO: None / Candidate, and no appreciable listing risk	YES: Pond and riparian habitats in western US and Canada.	YES: Take is unlikely. Although toads are not known to occur in the study area, suitable habitat does exist and they are known from nearby (Spurgeon Creek).	YES: WDFW (2016)	Moderately feasible: There are opportunities to conserve habitat for this species at some potential mitigation sites.	Do not cover. Low risk of take, and listing is doubtful within HCP term.
Bull Trout ³ <i>Salvelinus confluentus</i>	YES: Threatened / Candidate	NO: Cold waters and major water bodies in the Pacific Northwest; not within Tumwater UGA.	NO: Take is not expected. Any mechanism causing take would likely involve in-water work (a federal nexus, thus could be a Section 7 consultation).	YES: Extensive literature base.	Not feasible: Suitable habitat does not occur within the Tumwater UGA and is rare in Thurston County.	Do not cover. Take is unlikely, species does not occur within the Tumwater UGA, and mitigation is not feasible.
Puget Sound Chinook salmon ³ <i>Oncorhynchus tshawytscha</i>	YES: Threatened / Candidate	NO: Streams and larger water bodies in the Pacific Northwest.	NO: Take is not expected. Any mechanism causing take would likely involve in-water work (a federal nexus, thus could be a Section 7 consultation).	YES: Extensive literature base.	Not feasible: Suitable habitat likely does not occur within the Tumwater UGA and is rare in Thurston County.	Do not cover. Take is unlikely, species likely does not occur within the Tumwater UGA, and mitigation is not feasible.
Hoary elfin butterfly ^{1,2} <i>Callophrys polios obscurus</i>	YES: None / None, but has an appreciable listing risk	YES: Washington, only known from 10-15 localities in the south Puget Sound prairies. Little is known about its habitat needs.	YES: Not known if it occurs within Tumwater UGA. If it does, take might result from covered activities.	NO: Schultz et al. (2011)	Feasibility uncertain due to data gaps about habitat needs.	Deferred Decision. For each of the five currently-unlisted butterflies, there is limited knowledge of potential to occur on lands within the HCP plan area. Excepting Mardon skipper and Valley silverspot butterfly, there is also very little known about the biology of these species. A fuller analysis will be developed during Phase 2 of the HCP development process and a decision whether to cover will be made at that time.
Mardon skipper butterfly ^{1,2} <i>Polites mardon</i>	YES: None / Endangered, but has an appreciable listing risk	YES: Western Washington prairies, the Mt. Adams area, and the Klamath-Siskiyou area; in Washington, primarily near Tenino.	YES: Not known to occur within Tumwater UGA; potentially found at mitigation sites, where it could be taken by management activities.	YES: Xerces et al. (2002), USFWS (2016)	Feasible: Species will only occur at mitigation sites, and only if they provide suitable habitat for it to colonize.	Deferred Decision, rationale stated above. Note that listing of this species was found “not warranted” by USFWS in 2012; listing is unlikely during permit term.
Oregon branded skipper butterfly ^{1,2} <i>Hesperia colorado oregonia</i>	YES: None / None, but has an appreciable listing risk	YES: British Columbia and Washington, with 6 known localities in the south Puget Sound prairies. Little is known about its habitat needs.	YES: Not known to occur within Tumwater UGA; potentially found at mitigation sites, where it could be taken by management activities.	NO: Schultz et al. (2011)	Feasibility uncertain due to data gaps about habitat needs.	Deferred Decision, rationale stated above.
Puget blue butterfly ^{1,2} <i>Icaricia icarioides blackmorei</i>	YES: None / Candidate, but has an appreciable listing risk	YES: British Columbia and Washington, known from 7-10 localities in the south Puget Sound prairies. Little is known about its habitat needs.	YES: Not known to occur within Tumwater UGA; potentially found at mitigation sites, where it could be taken by management activities.	NO: Schultz et al. (2011)	Feasibility uncertain due to data gaps about habitat needs.	Deferred Decision, rationale stated above.
Taylor's checkerspot	YES: Endangered / Endangered	YES: Prairie habitat at rare locations in Oregon, Washington, British Columbia	YES: Does not occur within Tumwater UGA; potentially found at mitigation sites, where it could	YES: USFWS (2013)	Feasible: Species will only occur at mitigation sites, and only if they provide suitable habitat	Cover if, and only if, it occurs on mitigation lands. Low risk of take, but self-mitigating since species is only



Species	Status (Federal / State)	Range	Impact	Knowledge	Feasibility	Conclusion
butterfly ^{1, 2, 3} <i>Euphydryas editha taylori</i>			be taken by management activities.		for it to colonize.	likely to occur at mitigation sites.
Valley silverspot butterfly ¹ <i>Speyeria zerene bremnerii</i>	YES: None / Candidate, but has an appreciable listing risk	YES: Historically, from southwestern British Columbia to west-central Oregon. Extirpated now in Oregon. Found in native prairies and grasslands.	YES: Does not appear to occur within Tumwater UGA, but is associated with south Puget Sound prairie habitat. Take might result from covered activities.	YES: Xerces (2009)	Moderately feasible: There are opportunities to conserve habitat for this species at some potential mitigation sites.	Deferred Decision , rationale stated above.
Golden paintbrush ³ <i>Castilleja levisecta</i>	YES: Threatened / Threatened	YES: Oregon and Washington, including prairies in Thurston County, where it has been reestablished and is starting to develop self-perpetuating populations.	YES: Not known to occur within Tumwater UGA and occurrence is unlikely. Could establish naturally in suitable habitat at mitigation sites, where take might result from management activities.	YES: USFWS (2010, 2016)	Feasible: Species will only occur at mitigation sites, and only if they provide suitable habitat for it to colonize.	Cover if, and only if, it occurs on mitigation lands. Low risk of take, but self-mitigating since species is only likely to occur at mitigation sites.
Kincaid's lupine ³ <i>Lupinus sulphureus</i> ssp. <i>kincaidii</i>	YES: Threatened / Endangered	YES: Prairies of western Oregon and Washington, but not known north of southwestern Lewis County.	YES: Not known to occur within Tumwater UGA and occurrence is very unlikely. Could occur at mitigation sites within its range, where take might result from management activities.	YES: USFWS (2010)	Not feasible: Mitigation sites are unlikely to be sited within the range of this species.	Cover if, and only if, it occurs on mitigation lands. No risk of take, unless a mitigation site is selected within its range.
Marsh sandwort ³ <i>Arenaria paludicola</i>	YES: Endangered / Extirpated	NO: Formerly reported from Washington (not Thurston County); all extant populations are in California from San Francisco southwards.	NO: Reasonably certain that it does not occur in Washington; no risk of take.	YES: USFWS (2016)	Feasibility unknown; little in known of its Washington habitats.	Do not cover. No risk of take. Does not occur in Thurston County.
Nelson's checker-mallow ³ <i>Sidalcea nelsoniana</i>	YES: Threatened / Endangered	YES: Prairies of western Oregon and Washington, but not known north of southwestern Lewis County.	YES: Not known to occur within Tumwater UGA and occurrence is very unlikely. Could occur at mitigation sites within its range, where take might result from management activities.	YES: USFWS (2010)	Not feasible: Mitigation sites are unlikely to be sited within the range of this species.	Cover if, and only if, it occurs on mitigation lands. No risk of take, unless a mitigation site is selected within its range.
Puget balsamroot ² <i>Balsamorhiza deltoidea</i>	NO: None / None, and no appreciable listing risk	YES: A common plant, widely distributed from California to British Columbia.	YES: Take possible, would most likely occur through management activities at mitigation sites.	YES: USDA (2016)	Feasible: There are opportunities to conserve habitat for this species at mitigation sites	Do not cover. Moderate risk of take and mitigation is feasible, but listing is very unlikely within HCP term.
Rose checker-mallow ² <i>Sidalcea malviflora</i> ssp. <i>virgata</i>	YES: None / Endangered, but has an appreciable listing risk	YES: A very rare plant known to occur in Thurston County. Very little is known of it.	YES: If it does occur within the Tumwater UGA, there would be a take risk.	NO: NatureServe (2016)	Mitigation not currently feasible because little is known of its habitat needs.	Do not cover. Take risk unknown. Mitigation not feasible. Not listed, and listing is not foreseeable.
Water howellia ³ <i>Howellia aquatilis</i>	YES: Threatened / Sensitive	YES: Annual aquatic plant of Oregon, Idaho, California, Montana and Washington, including Thurston County. Not reported from within Tumwater UGA.	NO: It occasionally occupies habitats used by Oregon spotted frog, but take is unlikely except through development that causes fill of high-quality wetlands.	YES: USFWS (2016)	Moderately feasible: There would likely be opportunities to conserve habitat for this species at some potential mitigation sites.	Do not cover. There is a small risk of take, but it would not be cost-effective to attempt to cover and mitigate for effects to this species, given that it is unlikely to be taken and that take of its aquatic habitat would trigger federal involvement via a Clean Water Act Section 404 permit.

Notes

¹ One of the Thurston County HCP Covered Species.

² One of the species listed in the Section 6 Grant Proposal for Bush Prairie HCP.

³ One of the species listed in the USFWS species list for Thurston County (USFWS 2016), except that species that require old growth forest or live only in salt water are not included.



Recommendations

Per Table 1, the following species are proposed for coverage under the Bush Prairie HCP:

Definitely Cover: All of these species clearly meet all four criteria.

- Olympia pocket gopher
- Streaked horned lark
- Oregon vesper sparrow
- Oregon spotted frog.

Cover if, and only if, it occurs on mitigation lands: There is substantial uncertainty about where mitigation lands will occur. In large part this is due to the needs of the streaked horned lark, which will need a large parcel of flat, short-grass prairie distant from the airport; such a site may be far from the airport, such as in the Tenino area or even as distant as along the lower Columbia River. Once a suitable site is located and surveyed, we will know which of the following species may be dropped from consideration.

- Roy Prairie pocket gopher
- Tenino pocket gopher
- Yelm pocket gopher
- Taylor's checkerspot butterfly
- Golden paintbrush
- Nelson's checker-mallow
- Kincaid's lupine.

Do not cover: Species do not meet all four selection criteria. In most cases, they have a very low risk of incidental take and/or a very low risk of ESA listing during the permit term.

- Western gray squirrel
- Slender-billed white-breasted nuthatch
- Yellow-billed cuckoo
- Western toad
- Bull trout
- Puget Sound Chinook salmon
- Marsh sandwort
- Puget balsamroot



- Rose checker-mallow
- Water howellia.

Deferred Decision: For these five butterfly species, the risk of incidental take is highly uncertain because the species' distribution in the study area is not well known; also, none of these species is listed and the risk of their becoming listed during the permit term is not well known. It is likely, but still uncertain, that mitigation is feasible. A decision on whether to list these species should be based upon a fuller investigation of the species biology, distribution, the risk of its take, and the risk of its listing. This decision is deferred until Phase 2 of HCP development to allow more time for data collection and discussion about these species.

- Hoary elfin butterfly
- Mardon skipper butterfly
- Oregon branded skipper butterfly
- Puget blue butterfly
- Valley silverspot butterfly

References

Mead and Hunt. 2013. Final Report: Critical Area (Priority Habitat & Species) Recommended Mitigation Measures for Port of Olympia/Olympia Regional Airport. Prepared by Mead & Hunt and Anchor QEA, LLC. September 2013.

NatureServe. 2016. *Sidalcea malviflora* ssp. *Virgata* (T.J. Howell) C.L. Hitchc. http://explorer.natureserve.org/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=155257&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedEIKey=155257&offPageSelectedEIType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=155257, accessed 2016.10.11.

Schultz, Cheryl B., Erica Henry, Alexa Carleton, Tyler Hicks, Rhiannon Thomas, Ann Potter, Michele Collins, Mary Linders, Cheryl Fimbel, Scott Black, Hannah E. Anderson, Grace Diehl, Sarah Hamman, Rod Gilbert, Jeff Foster, Dave Hays, David Wilderman, Roberta Davenport, Emily Steel, Nick Page, Patrick L. Lilley, Jennifer Heron, Nicole Kroeker, Conan Webb and Brian Reader. 2011. Conservation of Prairie-Oak Butterflies in Oregon, Washington, and British Columbia. *Northwest Science* 85(2):361-388.

US Department of Agriculture (USDA). 2016. *Balsamorhiza deltoidea* Nutt. deltoid balsamroot. Available: <http://plants.usda.gov/core/profile?symbol=bade2>, accessed 2016.10.11.

US Fish and Wildlife Service (USFWS). 2010. Recovery plan for the prairie species of western Oregon and southwestern Washington. http://ecos.fws.gov/docs/recovery_plan/100629.pdf, accessed 2016.10.11.



- US Fish and Wildlife Service (USFWS). 2013. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Taylor's Checkerspot Butterfly and Threatened Status for the Streaked Horned Lark; Final Rule. October 3, 2013. Federal Register. Volume 78. Number 192. 61452-61503.
- US Fish and Wildlife Service (USFWS). 2014. Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Olympia Pocket Gopher, Roy Prairie Pocket Gopher, Tenino Pocket Gopher, and Yelm Pocket Gopher, With Special Rule. U.S. Department of the Interior, Fish and Wildlife Service. April 9, 2014. Federal Register. Volume 79, Number 68. 19760-19796.
- USFWS. 2016. IPaC Information for Planning and Conservation. U.S. Fish & Wildlife Service. Search of resources for projects in Thurston County, Washington at <https://ecos.fws.gov/ipac/> Accessed on October 6, 2016.
- Washington Department of Fish and Wildlife (WDFW). 2012a. Annual Report on Candidate Species: Oregon Vesper Sparrow (*Pooecetes gramineus affinis*). http://wdfw.wa.gov/conservation/endangered/species/oregon_vesper_sparrow.pdf. Accessed on October 7, 2016.
- Washington Department of Fish and Wildlife (WDFW). 2012b. Annual Report on Candidate Species: Slender-billed White-breasted Nuthatch (*Sitta carolinensis aculeate*). http://wdfw.wa.gov/conservation/endangered/species/slender-billed_white-breasted_nuthatch.pdf. Accessed on October 10, 2016.
- Washington Department of Fish and Wildlife (WDFW). 2012c. Annual Report on Candidate Species: Yellow-billed Cuckoo (*Coccyzus americanus*). http://wdfw.wa.gov/conservation/endangered/species/yellow-billed_cuckoo.pdf. Accessed on October 10, 2016.
- Washington Department of Fish and Wildlife (WDFW). 2016. Priority Habitats and Species database. Accessed on August 25, 2014.
- Wiles, G. 2016. Periodic Status Review for the Western Gray Squirrel in Washington. Washington Department of Fish and Wildlife. Olympia, Washington. 19 +iii pp.
- Xerces Society, Gifford Pinchot Task Force, Northwest Environmental Defense Center, Center for Biological Diversity, Oregon Natural Resources Council, Friends of the San Juans, and Northwest Ecosystem Alliance. 2002. Petition to list the Mardon skipper butterfly (*Polites mardon*) as an endangered species under the U.S. Endangered Species Act. <http://ecos.fws.gov/docs/petitions/92210/82.pdf>, accessed 2016.10.11.