Appendix I. Conservation Land Prioritization Criteria

Introduction

As described in Chapter 5 of the HCP, the HCP Biological goals, Conservation objectives, and conservation measures illustrate the vision and commitments of the HCP Conservation Program. The Biological goal of the HCP is to maintain viable populations of each of the Covered Species within Thurston County. Conservation Objectives to meet the Biological goal are:

1. **Minimize** impacts to the Covered Species, through application of Best Management Practices and outreach to the community (see Section 5.3);

2. Acquire, from willing sellers, **New Reserves** to secure, stabilize, and expand species strongholds, while also building the framework for species recovery. Habitat on each permanently protected parcel will be enhanced and funded for long-term management. Mitigation credits will be earned;

3. Secure permanent **Working Lands** reserves, via conservation easements with willing landowners, to conserve, stabilize, and expand species distributions, and demonstrate land uses compatible with the Covered Species. Habitat on each permanently protected parcel will be maintained with funding for long-term management; and

4. **Enhance the Habitat at Existing Preserves** with current or historical populations of the Covered Species, through funding habitat restoration, enhancement and long-term maintenance on existing protected reserves. This will increase the long-term habitat stability and conservation benefit of these lands and provide essential support for their Covered Species populations.

Conservation Objectives 2, 3 and 4 will generate mitigation credits to offset the impacts from the Covered Activities, while building the HCP Conservation Lands System. This appendix presents greater detail on the layout of the Conservation Lands System, and sets criteria to help the County determine where to prioritize implementation of the Conservation Program (see HCP Section 5).

The intent of the Conservation Lands System is to protect, restore, enhance and maintain habitat for the Covered Species, while also maintaining and restoring connectivity between and among components of the Conservation Lands System and existing protected habitat in Thurston County. Establishing the parameters of such a Conservation Lands System, and including a system to prioritize acquisition and enhancement of properties, will facilitate ecologically functional lands and support the most biologically meaningful outcomes.

While the HCP Conservation Lands System will be established with funding from mitigation offsets, it is likely to be complemented by additional species recovery efforts implemented by other conservation...
entities through other funding approaches, including federal and state grants, or regional or local funds available for land acquisition or habitat enhancement. Such efforts will not replace mitigation responsibilities contained in the HCP.

**Conservation Lands System Structure and Layout**

HCP Conservation Lands will be prioritized for location within Reserve Priority Areas (RPAs), since these represent areas of greatest habitat value to the Covered Species. RPAs are identified within each HCP Service Area and are mapped in HCP Figure 5.1. Current data describing the Covered Species presence in each Service Area, either in already protected lands or in Reserve Priority Areas identified to date, are shown in Table 1 – species location data are derived from the WDFW Priority Habitats and Species dataset, Personal Communication with WDFW biologists, and Personal Communication with Bob Altman, American Bird Conservancy.

For Oregon spotted frog (OSF), the HCP will treat federally designated OSF critical habitat as RPAs.

**Table 1. Service Areas and species areas of the Thurston County HCP, and the protected lands, Reserve Priority Areas, and Covered Species within them.**

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Acres</th>
<th>Hectares</th>
<th>OPG</th>
<th>TPG</th>
<th>YPG</th>
<th>OVS</th>
<th>TCB</th>
<th>OSF</th>
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</thead>
<tbody>
<tr>
<td>OPG</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
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<td>P</td>
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<td></td>
<td></td>
<td></td>
<td>H</td>
</tr>
<tr>
<td>TPG</td>
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<tr>
<td>YPG E</td>
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<tr>
<td>YPG N</td>
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</tr>
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<tr>
<td>Scatter Creek N</td>
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<td>P</td>
<td>H</td>
<td>H</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scatter Creek S</td>
<td></td>
<td></td>
<td>P</td>
<td>H</td>
<td>H</td>
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<td></td>
<td></td>
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<tr>
<td>OSF</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

P = Present, H = Historical, I = Introduced
YPG= Yelm pocket gopher, OPG= Olympia pocket gopher, TPG= Tenino pocket gopher, TCB= Taylor’s checkerspot, OVS = Oregon vesper sparrow.
Table 2 summarizes the key terms used when envisioning a Conservation Lands System, how elements of a Conservation Lands System contribute to the conservation of Covered Species, the level of protection needed to ensure the ecological function of those elements, and the mechanisms typically employed to implement such a system. It is useful to think of applying these terms at the parcel scale.

Table 2 Terms used in discussing Conservation Land System components.

<table>
<thead>
<tr>
<th>Term</th>
<th>Function and Characteristics</th>
<th>Protection and Management</th>
<th>Typical Mechanisms to Achieve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve Core</td>
<td>Supports a Covered Species population. Typically, consistently occupied by Covered Species. One or more Cores that are adjoining or connected by Corridors form a Reserve.</td>
<td>Permanent protection. Management specifically for Covered Species benefit and persistence.</td>
<td>Fee acquisition; conservation easement; stewardship endowment; management.</td>
</tr>
<tr>
<td>Corridor</td>
<td>Supports connectivity, allowing Covered Species movement and occupancy between Cores.</td>
<td>Permanent protection. Management is compatible with Covered Species occupancy.</td>
<td>Conservation easement with management to maintain rural residential, low intensity agriculture, and open space.</td>
</tr>
<tr>
<td>Compatible Land Use Areas</td>
<td>Supports connectivity; allows demographic exchange among Cores, Corridors, Satellites, and Reserves. Potentially supports small populations of Covered Species.</td>
<td>Term (non-permanent) protection.</td>
<td>Term working lands leases; Zoning; use as open space, agriculture, or low density development;</td>
</tr>
<tr>
<td>Satellite</td>
<td>Supports Covered Species. Satellites could be located outside a Reserve Priority Area or a Focal Area. No satellites are identified in this document, but could occur based on new information and their benefit to HCP species.</td>
<td>Permanent protection. Management is compatible with, or specifically beneficial to HCP species occupancy.</td>
<td>Fee acquisition for conservation; conservation easement; stewardship endowment, management.</td>
</tr>
</tbody>
</table>

1 For more detail on concepts associated with MPG conservation that affected our selection of Reserve Priority Areas, see Appendix 1 of the USFWS/WDFW MPG Reserve Guidance Document (USFWS WDFW 2014).
Cores and Corridors will comprise a Reserve, and are represented in Figure 1. Within any Reserve, which often includes several parcels, there will be one or more Cores which support a Covered Species population. Reserve Priority Areas will be located such that they adjoin or surround existing protected prairie lands (e.g., Natural Area Preserves or Wildlife Areas). These Cores are connected to one another through Corridors, or physically adjoin each other with no or few intervening barriers. Barriers to movement must be evaluated on a species by species basis. A primary function of a Reserve is to support a large, robust local population that is less susceptible to random environmental, demographic, and genetic events.

Permanent connectivity among Cores in a Reserve is to be provided by Corridors, but temporary connectivity will be provided through surrounding lands with Compatible Land Uses (e.g., lands engaged in the Working Lands Stewardship Program (See HCP Working Lands Strategy)). Corridors allow demographic exchange of Covered Species populations and potentially support small Covered Species populations, or stepping stones of habitat between populations. Developed lands (e.g., cities) are not likely to provide suitable habitat for Covered Species, and are assumed to act as barriers to species movement.

Satellite habitat areas are areas that could become important for conserving HCP Covered Species based on new information, such as finding a previously unknown population. These areas would lie outside the Reserve Priority Areas, and possibly outside the Focal Areas, because species preference and/or presence are unknown at the time of HCP development. A new Focal Area or Reserve Priority Area will be created if new and significant populations are discovered in the future.

Figure 1. Reserve System component diagram.
Table 1 identifies the current Service Areas and Reserve Priority Areas. The currently protected lands within each Service Area will be part of the cores and corridors that the HCP can build from as the Conservation Program is implemented.

Criteria for Selecting Conservation Lands

Conservation lands will be prioritized by the HCP Implementation Team using a combination of A) the prioritization criteria below, and B) the need to mitigate impacts for each Covered Species within designated Service Areas. The prioritization criteria were drawn from several sources, including, but not limited to, the MPG reserve design process led by USFWS and WDFW, preserve criteria set by the Sentinel Lands working group, species criteria built into the Prairie Habitat Assessment Methodology.

The County, working with the HCP Implementation Team, will identify lands for the HCP Conservation Lands System (see HCP Section 6.7). Potential lands will be prioritized first using the general criteria, then by applying the species-specific criteria, while also addressing the need to offset the geographic distribution of impacts.

General Criteria for Selecting All Conservation Lands

- **Species presence**: High priority sites will have greater abundance and distribution of Covered Species. Several of the HCP species have extremely limited distributions (e.g., Oregon Vesper Sparrow and Taylor’s Checkerspot). If no sites with occupancy can be selected for conservation actions, then sites with the best potential for achieving occupancy will be selected based on historical or likely use, habitat factors, and/or location.

- **Species adjacency or connectivity**: High priority sites will be adjacent or connected to offsite populations of the Covered Species, with few to no barriers to species movement or dispersal among protected sites and within RPAs. Species specific dispersal distances are included in Table 3.

- **Parcel size**: Larger parcels will be preferred and parcel conglomerates will be sought, especially where combined tracts of protected land are 300 ac (121 ha) or more. Conservation lands will be a minimum of 50 ac (20 ha), or if smaller, adjacent to an already-conserved land managed for Covered Species. However, some smaller parcels may be important and will be considered for particular Covered Species, such as OSF and TCB (see species-specific criteria below).

- **Current habitat quality and potential for habitat improvement**: In general, high priority sites will have attributes that equate to high functionality for the Covered Species to be conserved. This may be high cover and diversity of native plants (both forbs and grasses) and low cover of invasive species, or cover of less problematic invasive species. Or, this may be specific soil types, vegetation structure, or hydrology. High priority sites will also have vegetation composition, soils, topography, or hydrology that suggest the potential for successful habitat enhancement.

- **Habitat location or connectivity**: High priority sites will, in order of preference, be within, adjacent, functionally connected to (within species dispersal distance (Table 3)), or provide
functional connection to, in order of preference, designated critical habitat for a Covered Species, permanently conserved land managed for the Covered Species, species strongholds (e.g., areas with documented populations of Covered Species for multiple years), or lands identified in RPAs.

- **Surrounding land use:** High priority sites will be surrounded by compatible land uses that minimize factors such as pesticide drift, predation risk, invasive species, or disturbance. Such factors can contribute to sites becoming species sinks – that is, areas that attract Covered Species, but where their populations cannot survive.

- **Management feasibility:** High priority sites must have reasonable and reliable long term and year round accessibility for habitat restoration equipment and staff. Location in a setting that would permit use of herbicides for habitat restoration and prescribed fire for vegetation management is preferred. Sites with control of access and defensibility are also preferred.

- **Site resiliency:** High priority sites will be resilient to environmental variation, climate change, and extreme events, as possible. Sites with a variety of soil depths and drainages, topographic aspects, vegetative cover and structure, and those that include ecotones between differing habitat types (e.g., transitions from riparian to wet prairie or upland prairie to oak savanna) are preferred. Such sites are likely to be the most beneficial to species survival over time.

<table>
<thead>
<tr>
<th>Species</th>
<th>Estimated Dispersal Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mazama pocket gopher (MPG)</td>
<td>656 ft (200 m)</td>
</tr>
<tr>
<td>Taylor’s Checkerspot (TCB)</td>
<td>1,312 ft (400 m)</td>
</tr>
<tr>
<td>Oregon Vesper Sparrow</td>
<td>Migratory, but with high site fidelity</td>
</tr>
<tr>
<td>Oregon Spotted Frog (OSF)</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

1Dispersal distance derived from USFWS

**Criteria for Selecting Conservation Lands for Olympia, Tenino and Yelm Pocket Gopher (MPGs)**

Conservation Lands for OPG, TPG and YPG (collectively, MPG) will be at least 50 ac (20 ha) in size or adjacent to protected lands managed for MPG. Conservation lands for mitigation will, in order of preference, be located:

Priority 1: On parcels occupied by at least 10% cover of naturally occurring MPG
Priority 2: On parcels with a predominance of more-preferred MPG Soils (See HCP Table 2.3) and adjacent to areas occupied by MPGs or within federally designated critical habitat for MPG.

Priority 3: On parcels with the same soil types as adjacent (within 656 ft (200 m)) areas occupied by MPG.

Priority 4: On parcels with a predominance of more preferred soils, and within 656 ft (200 m) of areas occupied by MPG.

**Criteria for Selecting Conservation Lands for Taylor’s Checkerspot Butterfly**

Unless recommended otherwise by the HCP Implementation Team, sites for Taylor’s Checkerspot Butterfly (TCB) conservation shall be selected within that include current wild, introduced, or recent historical populations of the species. In general, sites for butterfly conservation will be greater than 50 ac (20 ha) in size, unless they are adjacent to other conserved land, are occupied by TCB, or have 5 ac (2ha) or more of area occupied by larval host plants. Stepping stones of habitat (butterfly host or nectar species) within the Corridor can facilitate movement in and through the Corridor between Cores, when Cores must be separated by distances greater than typical butterfly dispersal distances (Table 3).

Conservation lands for Taylor’s checkerspot butterfly mitigation will, in order of preference, be located:

Priority 1: On sites which currently support TCB.

Priority 2: On sites which recently supported TCB or lie within federally designated critical habitat.

Priority 3: On sites with high-quality native grassland for TCB (as defined by HCP Table 4.5) less than the TCB dispersal distance (1,312 ft (400 m)) from extant populations of TCB.

Priority 4: On sites with high-quality native grassland in close proximity (less than 0.5 mi (0.8 km)) to conserved lands.

Priority 5: On sites with high-quality prairie greater than 0.5 mi (0.8 km) from extant TCB populations or conserved lands.

Priority 6: On sites without high-quality prairie but that are adjacent (preferred) to, or in close proximity (less than 0.5 mi (0.8 km)) to, extant TCB populations or conserved lands.

Higher-quality native grassland is prioritized because of the cost and difficulty of prairie restoration. If prairies with other conditions become easier to restore in the future, priority may change.
Criteria for Selecting Conservation Lands for Oregon Vesper Sparrow

Preferred habitat for Oregon Vesper Sparrow is upland prairie/grassland or savanna or appropriate agricultural types (i.e., light to moderately grazed pasture or weedy Christmas tree farms 2-5 years old). These areas tend to have less than 15% tree and shrub cover (scattered and not in fencerows or forming barriers), with some bare ground (5-15% of the area). The vegetation structure should include multiple levels (e.g., variable height between grasses and forbs) and be diverse in its plant species composition. Herbaceous forb species should make up at least 15% of the ground cover. Vegetation height during mid to late May should be between approximately 6 – 20 in (15- 51 cm) (Bob Altman, Personal communication, July 2015).

Conservation lands for Oregon vesper sparrow mitigation will be at least 20 ac (8 ha), or adjacent to lands managed for Oregon vesper sparrow, and in order of preference, be located:

Priority 1: On sites which currently support breeding populations of Oregon vesper sparrow are highest priority, with larger sites preferred over smaller sites.

Priority 2: On sites not occupied by Oregon vesper sparrow, with > 20 ac (8 ha) of suitable open grassland habitat, and adjacent to or within 2 miles of an occupied site.

Priority 3: On sites not occupied by Oregon vesper sparrow with > 20 ac (8 ha) of suitable open grassland habitat that are adjacent to unoccupied but suitable habitat.

Priority 4: On sites not occupied by Oregon vesper sparrow with > 20 ac (8 ha) of open suitable grassland habitat that are surrounded by unsuitable habitat.

Criteria for Selecting Conservation Lands for Oregon Spotted Frog

The location of potential habitat for Oregon Spotted Frog (OSF) in Thurston County is not as well-known. Conservation lands for OSF as a whole will include a range of OSF habitat across non-breeding, breeding, rearing, and overwintering life stages. All sites secured for OSF conservation lands must be in the OSF screen and within the Black River watershed. These criteria will be adjusted through HCP adaptive management to support recovery goals if needed. Conservation lands for OSF will be at least 5 ac (2 ha), or adjacent to lands managed for OSF, and in order of preference, be located:

Priority 1: On sites with known oviposition sites for OSF that are within federally designated critical habitat.

Priority 2: On sites with confirmed occupancy of OSF, and within WDFW identified Population Polygons (Hallock 2019; Figure 2).

Priority 3: On sites with confirmed occupancy of OSF.

Priority 4: On sites with suitable habitat that are adjacent, both adjoining property lines and
hydrologically connected, to sites supporting OSF populations.

Priority 5: On sites with suitable habitat and hydrologically connected to sites supporting OSF populations within 5 km, OR on sites that can be enhanced to suitable habitat and are adjacent to sites supporting OSF populations.

Priority 6: On sites with suitable habitat in the OSF screen and the Black River watershed.

REFERENCES


Hallock, Lisa. Washington Department of Fish and Wildlife, Personal Communication via USFWS.


Figure 2. Priority areas for OSF conservation in the Thurston County HCP.