

State of Washington

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# Long-range Planning

Considering the Shrub-steppe Landscape



*Washington  
Department of  
Fish and Wildlife*

IMPORTANT NOTE TO READERS: The following is a condensed version of the site-specific management section found in WDFW's Management Recommendations for Washington's Priority Habitats: Shrub-Steppe. To find the site-specific management section in its entirety, please go to <https://wdfw.wa.gov/sites/default/files/publications/01333/wdfw01333.pdf>

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Cover photo by Derek Stinson.

Many requirements critical to shrub-steppe wildlife—large, unfragmented habitat patches; habitat connectivity—are impossible to manage on a site-by-site basis. Hence, many issues important to shrub-steppe wildlife must be handled at a landscape scale. Here we provide guidance for making decisions that affect shrub-steppe from the perspective of a long-range planner.

Information provided here will help with:

- identifying high priority areas of shrub-steppe across a large planning area.
- recognizing important features of shrub-steppe habitat.
- designating areas of shrub-steppe as part of a local plan.
- adopting planning policies, regulations, and incentives that consider impacts to shrub-steppe.

## IDENTIFYING AND MAPPING SHRUB-STEPPE

A first step in making a decision is knowing where there is habitat. Having mapped information is critical when trying to protect potentially important shrub-steppe and areas essential for habitat connectivity.

*COURSE RESOLUTION*— Available are course resolution maps of shrub-steppe over large geographic areas. Sources of course resolution mapped data include the [Landfire](#) and [SAGEMAP<sup>1</sup>](#) databases. These and other similar resources can help you begin identifying where potential shrub-steppe occurs. However, caution need to be taken when using this type of data. Most importantly, do not use course data sets like these as the sole source of information for making local planning decisions. Instead, use it with other data sources such as local habitat and survey data, high resolution aerial photos, and input from experts familiar with the local shrub-steppe landscape.

*FINER RESOLUTION*— Although you can access this type of course resolution data online, few jurisdictions have finer resolution maps of shrub-steppe covering larger areas. While some higher-resolution shrub-steppe maps are available for larger areas in Washington, these maps are mostly restricted to public lands. Since little has been mapped off of public lands, this type of information is needed.

To address this need, WDFW developed a protocol for generating higher-resolution maps of shrub-steppe at landscape scales (see *PHS Shrub-steppe Management Recommendations*, Appendix 7) to aid in activities like an urban growth area expansion proposal. Although creating these maps requires resources and expertise, the protocol is one that local municipalities can reasonably accomplish. We encourage you to look into possibly using this protocol to map shrub-steppe habitat in your area.

*OTHER SOURCES OF MAPPED DATA*— In Table 1 are links to other useful sources of spatial data for long-range planning. Although primarily intended for site scale planning WDFW's Priority Habitat and Species (PHS) data and DNR's Natural Heritage data can serve other purposes like helping validate the accuracy of broader scale habitat maps.

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<sup>1</sup> Administered by USGS, SAGEMAP provides spatial information for shrub-steppe management. Although Landfire data is primarily intended for supporting fire management, it includes data on existing arid habitats.

**Table 1.** Databases and resources to help identify occurrences of shrub-steppe habitat.

Resource	Overseeing Agency	Description
<a href="#">PHS Database</a>	WDFW	Known occurrences of shrub-steppe habitat and associated species
<a href="#">Natural Heritage Database</a>	Washington Natural Heritage Program	Mapped occurrences of rare plant populations and high quality ecosystems
<a href="#">SAGEMAP</a>	USGS	Spatial information needed to address sagebrush steppe management.
<a href="#">Landfire Database</a>	US Forest Service and US Geological Survey	A database to support fire management that includes data on existing vegetation types.
<a href="#">Columbia Plateau Connectivity Analysis</a>	Washington Wildlife Habitat Connectivity Working Group	Mapped areas important for wildlife habitat connectivity in the Columbia Plateau ecoregion.

## WHAT TO LOOK FOR AT THE LANDSCAPE SCALE

With the use of finer resolution maps, a number of approaches can help conserve habitat where development is planned. At a landscape scale, important shrub-steppe features such as patch size, habitat fragmentation, and connectivity can be evaluated using these maps. Knowing where these features potentially occur is helpful for making informed decisions.

*Shrub-Steppe Patch Size* – Given the importance of large blocks of shrub-steppe to sensitive wildlife, you should locate these areas, and especially when they are >1,000 ha (2,500 ac). Conserving larger patches is important and can be accomplished through various mechanisms (Table 2). Although large habitat patches need protection, small patches also merit conservation given they serve as stepping-stones linking larger patches, habitat for sagebrush-obligates, and potential areas for restoration.

**Table 2.** Planning activities used to protect large-blocks of shrub-steppe.

Actions	How it can work
Proposals to expand urban growth areas (UGAs)	Avoid UGA expansions in areas where large blocks of shrub-steppe occur.
Rezoning proposal	Determine if proposal is compatible. Proposals to rezone to more intensive land uses in these larger blocks of habitat are not recommended
Open Space Plan	Designate large blocks of habitat and important corridors as open space.
Conservation Futures	Give preference to large patches of shrub-steppe.
Local incentive programs <sup>1</sup>	Offer incentives for enrolling lands in large patches of shrub-steppe into conservation programs.
Mitigation banking	Offset adverse impacts to shrub-steppe using a mitigation bank (see Ecology's <a href="#">Wetland Mitigation Banking</a> publication for guidance). <sup>2</sup>
Federal incentive programs	Federal tax credits or deductions are available under certain conditions for landowners who wish to donate or sell their land for conservation purposes to a land trust or to a government entity.
Farmland protection programs	Programs like the <a href="#">Conservation Reserve Program</a> or <a href="#">Farmland Preservation Grants</a> offer incentives to enhance habitat or purchase development rights.

<sup>1</sup> e.g., purchase or transfer of development rights, current use/open space tax, and bonus densities for clustering development.

<sup>2</sup> Mitigation of no less than two acres of protected shrub-steppe is recommended for every acre of habitat that is lost (73)

*Shrub-Steppe Fragmentation and Connectivity*— Since most shrub-steppe patches are small, the degree to which patches are fragmented is important to consider. When evaluating fragmentation, shrub-steppe “archipelagos” (i.e., clusters of nearby habitat islands) are likely more important than small, isolated ones. Protecting habitat clusters aid species unable to move from more isolated habitats. When writing protective measures into long-range plans, you should identify these patches and give them higher conservation priority.

## CONSERVING SHRUB-STEPPE THROUGH LONG-RANGE PLANNING

Once you map shrub-steppe across a landscape, you can prevent habitat degradation through regulatory and nonregulatory means. On the regulatory side, communities periodically evaluate and update their comprehensive plans, urban growth areas (UGA), critical areas ordinances (CAO), open space plans, and zoning maps. At the non-regulatory end, a community can use incentives to protect shrub-steppe. The most effective approach is offering a strategy of combining regulatory and nonregulatory measures.

*Regulatory Protection of Shrub-Steppe*— When updating certain documents, we recommend you reviewed them to see if shrub-steppe is adequately being conserved. Critical area ordinances, zoning updates, proposals to annex or expand a UGA, and other pertinent plans all need periodic evaluation to ensure they protect habitat, and provide sufficient flexibility to respond to site-specific circumstances.

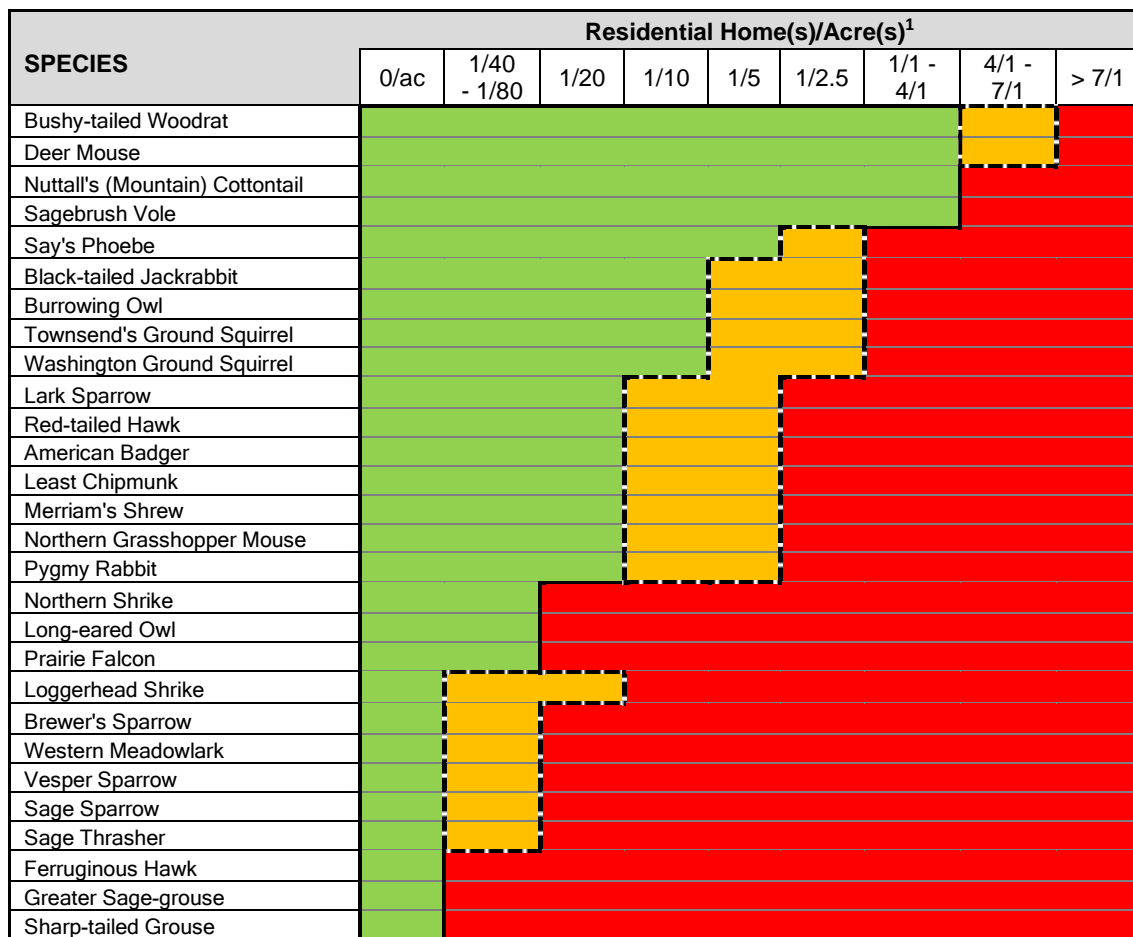
The Growth Management Act (GMA) is a powerful tool for wildlife habitat conservation. The GMA administrative guidelines direct all Washington cities and counties to adopt regulations to designate and protect Fish and Wildlife Habitat Conservation Areas and habitats and species of local importance (WAC 365-190-130). In eastern Washington, shrub-steppe and many species associated with shrub-steppe are designated by WDFW as statewide priorities. We strongly advise eastern Washington jurisdictions to designate and protect these priority species and habitats in CAOs (see [County-specific PHS List](#)). By doing this, the risk of additional species becoming endangered will likely diminish.

WDFW also recommends that CAOs trigger a review whenever a proposal could impact shrub-steppe or associated species. Landscape scale shrub-steppe maps and other information like PHS data can aid in triggering a review. Regulations associated with other development phases like clearing and grading and road and utility planning also need triggers given these often are overseen outside of planning departments (e.g., public works, county roads) and often are overlooked. All municipal departments should coordinate so every phase of development receives adequate review. Proposals under review should also go to adjacent landowners and other interested parties for comment.

Although CAOs are important, shrub-steppe protection requires other measures as well. When amending zoning or a UGA boundary, jurisdictions should assess how future development might affect habitat. Consult landscape scale shrub-steppe maps before rezoning or expanding a UGA. If a proposed area is in shrub-steppe, you should assess the impacts of it reaching the proposed buildout density. Policies and plans that influence the infrastructure needed for development to proceed also should acknowledge how shrub-steppe will be protected. Specifically, these plans should have language to make sure there is a review of potential shrub-steppe impacts when a road or utility line is being developed near shrub-steppe habitat. These plans should also call for mitigation when impacts are likely.

Answering key questions prior to adopting long-range plans should reduce conflicts or other problems when homes are proposed. For instance, if an area proposed for UGA expansion has large patches of shrub-steppe as well as portions lacking shrub-steppe, you should make all efforts to expand away from shrub-steppe. However, if most of the planning area consists of shrub-steppe, you should significantly minimize the extent of the UGA expansion or consider expanding elsewhere.

You should evaluate any proposals to increase development densities for potential impacts on shrub-steppe species. Figure 1 gives the predicted response of these species to development. Although this figure is a resource for making land use decisions, take caution to properly use this information. Specifically, you should use it along with other sources of ecological information to help plan for future growth. Also, do not use this information to assign densities based only the species you know inhabit an area. Rather we recommend you take a conservative approach and base your decision on what species could potentially occur in an area where expansion is proposed.



**Figure 1.** Predicted<sup>1</sup> response to development for shrub-steppe species. In green are densities where species are expected to persist; in orange species could occur if conservation measures are put in place; and in red are densities where species are not expected to occur.

<sup>1</sup> Predictions of species response to development are based on expert opinion because empirical data do not exist.

You should regularly evaluate zoning and land use designations to make sure a secondary activity will not harm fragile habitat. For instance, areas zoned at low densities are routinely used for non-commercial ranching, also known as hobby farming. Given a jurisdiction might have zoned areas to protect shrub-steppe, mismanaged grazing throughout a lot can often negate this intent. Where important shrub-steppe can be developed, the zoning should require a substantial percentage of each lot be set aside as a shrub-steppe conservation area. The remaining proportion may be used for “sustainable” grazing practices (e.g., low to moderate stocking levels, carefully managed grazing), as long as it is restricted to more disturbed portions. Local CAOs should include language to address these same issues for hobby farming in shrub-steppe. Planning departments should also provide hand outs to prospective hobby farmers on Best Management Practices.

To ensure options are available to protect important habitat, innovative techniques can be written into long-range planning documents to balance shrub-steppe protection with other goals. Such techniques can include provisions for cluster development, flexible densities and lot configurations, and native landscaping. Zoning and subdivision codes can give developers and landowners options to balance competing goals. Clustering development can be a useful tool. However, take caution if bonus densities are given as an incentive to cluster (Table 3).

**Table 3.** Issues to consider when planning a cluster development.

Issue	Potential Solution
Set-aside habitat does not meet the needs of sensitive wildlife	<ul style="list-style-type: none"> <li>• Increasing the patch size and managing for factors that affect connectivity, such as percent natural habitat retained and road traffic.</li> </ul>
Lack of connectivity to other habitats	<ul style="list-style-type: none"> <li>• Site open space adjacent to conservation lands, open space corridors, easement lands, and forest or other resource lands.</li> <li>• Site roads, homes, and other infrastructure so that open space is not cut off from adjacent areas of habitat.</li> </ul>
Home density too high near sensitive sites	<ul style="list-style-type: none"> <li>• Buffer sensitive sites with widths appropriate to the affected species.</li> <li>• Clustering and especially the use of bonus densities may not be appropriate for sites with highly sensitive species or high-quality shrub-steppe.</li> </ul>
Inadequate long-term open space protection	<ul style="list-style-type: none"> <li>• Require permanent easement (or other means of protecting open space in perpetuity) to clearly define restricted activities such as clearing, construction of infrastructure as well as permitted activities (e.g., unpaved trails).</li> <li>• Clearly state restricted and permitted uses on deeds and in covenants.</li> </ul>
Poor management of open space	<ul style="list-style-type: none"> <li>• Develop a management plan through homeowner’s association or a third party such as a land trust.</li> <li>• Distribute educational materials to the homeowners.</li> <li>• Place signs around open spaces identifying permitted and restricted uses.</li> <li>• Use legal mechanism to ensure open space remains in perpetuity.</li> </ul>
Inappropriate use of bonus densities	<ul style="list-style-type: none"> <li>• Bonus densities should take into consideration the sensitivity of local species.</li> <li>• Portions of the property that have been set aside and protected as open space should not be credited when determining / calculating a bonus density.</li> </ul>

*Use of Incentives to Protect Shrub-Steppe*— Shrub-steppe conservation planning can benefit from the use of nonregulatory, incentives. In local jurisdictions with transfer of development rights programs<sup>1</sup>, consider designating shrub-steppe as a key “sending area” for development rights more appropriately used in more urban areas. Also, consider using Conservation Futures funds to purchase land or development rights to secure examples of this threatened habitat<sup>2</sup>. Another option is reducing property taxes for those that enroll lands with shrub-steppe into a current use/open space tax program<sup>3</sup>.

Farmlands containing important shrub-steppe may also be able to receive financial assistance to encourage habitat protection. For instance, the [Farmland Preservation Grant](#) program often purchases development rights to preserve working farms and to protect wildlife habitat. The Washington office of the [Natural Resource Conservation Service](#) can also provide information for other incentives to protect habitat on farmlands. A much more detailed overview of the use of these and other conservation-oriented incentives is found in Chapter 6 of WDFW’s [Landscape Planning for Washington’s Wildlife: Managing for Biodiversity in Developing Landscapes](#).

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<sup>1</sup> See Washington Department of Commerce [Transfer of Development Rights website](#).

<sup>2</sup> See a description of Spokane County’s program at <https://www.spokanecounty.org/1592/Conservation-Futures>.

<sup>3</sup> Visit Department of Revenue fact sheet on the [Open Space Tax Act](#).