

APPENDIX 5

Steppe Habitat

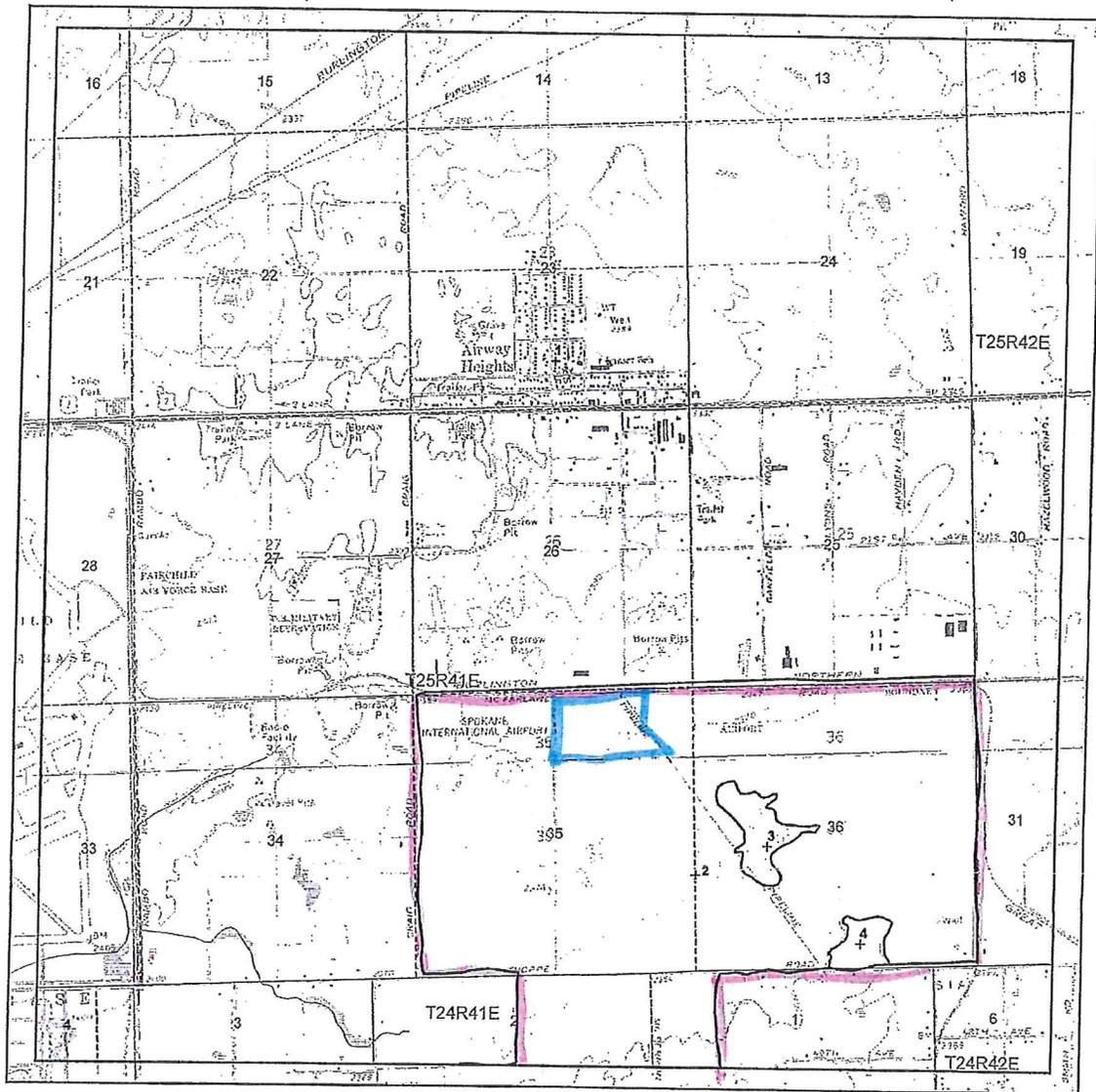
Steppe Habitat

At the request of FAA, the Action Area was evaluated for Steppe Habitat. All SIA property located in Section 35, T25N, R41E is depicted as steppe habitat on Washington Department of Fish and Wildlife (WDF&W) Priority Habitat maps. The EMFCO property is located within an area designated by WDFW as "Shrub-Steppe Terrestrial" in their Priority Habitats and Species (PHS) database. On January 12-15, 2014 BSW completed a field reconnaissance survey for burrowing owls. During the survey, BSW observed habitat types and plant distributions in the Action Area. No habitat with steppe characteristics occurs in the EMFCO Action Area.

Small isolated patches of steppe habitat occur at other locations on SIA property that avoided the plow. The steppe habitat on SIA property has a sagebrush and bunchgrass habitat type with a diverse native plant community and comparatively low noxious weed component. Small remnants of steppe habitat remain in the Section 36 (the square mile of land located immediately east of Section 35 where the EMFCO property is located). Most of Sections 35 and 36 were historically cultivated and planted in wheat. Due to low crop productivity, the site was eventually converted to Conservation Reserve Program (CRP). The conversion to CRP included drill seeding with non-native bunchgrasses. The cumulative effect of 50 years of cultivation and weed control, and the subsequent planting of non-native grasses greatly simplified and replaced the native plant community. The previously cultivated CRP areas no longer meet the definition of steppe habitat due to lack of diversity in the native plant and animal communities. Since cultivation ceased, Ponderosa pines have started to reclaim the area.

In 2012, BSW discussed land use signatures on airphotos, site specific crop records, and the existing CRP land use with other experts. BSW consulted with John Spring and Steve Sprecher at the Natural Resources Conservation Service (NRCS) and with Mr. Joseph Coombs, the Agronomist who has managed agricultural lands for SIA for over 30 years. Mr. Coombs and the NRCS confirmed BSW findings and conclusions regarding historical cultivation, crop patterns, conversion to CRP lands, and the dominance of non-native plant species. On March 9, 2012, BSW completed a site review with Karin Divens and Howard Ferguson of Washington Department of Fish and Wildlife (WDF&W) for concurrence on the absence, or presence and location of, remnant steppe habitat patches in adjacent Section 36. WDF&W concurred with BSW habitat analysis and the location of remnant steppe habitat. Karin Divens is familiar with the characteristics of the historically cultivated lands on SIA property.

The cumulative effect of 50 years of cultivation and weed control, and the subsequent planting of non-native grasses greatly simplified and replaced the native plant community in the EMFCO Action Area. The property was converted to CRP land by planting non-native bunchgrasses so there is no remaining steppe habitat on the EMFCO site. Based on familiarity with the site and air photo interpretation, WDFW concurred that the EMFCO site can be considered converted and is no longer steppe habitat. **The project will have No Effect on Steppe habitat.** A copy of WDFW correspondence supporting this finding follows.



Washington Department of Fish and Wildlife
PRIORITY HABITATS AND SPECIES MAP
 IN THE VICINITY OF T25R41E SECTION 26

Map Scale 1:24,000 - Production Date: Oct 09, 2008
 Coordinate System - State Plane South Zone 5626 (NAD83 HPGN)
 Map Designed by WDFW Information Technology Services GIS

PLEASE NOTE

This map and the accompanying reports are not for general distribution. Washington State Law (RCW 42.56.430(2)) exempts Sensitive Fish and Wildlife information from public inspection and copying.

Washington Department of Fish and Wildlife (WDFW) considers sensitive species and habitat locations displayed on this map and accompanying reports to be confidential. WDFW is the exclusive owner of the Sensitive Fish and Wildlife information and locations shall in all respects be treated as proprietary information in accordance with all procedures reasonably necessary to protect WDFW's proprietary rights therein.

DISCLAIMER

This map and the accompanying reports only include information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources.

Locations of mapped wildlife and habitat features are generally within a quarter mile of the locations displayed on this map. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using maps more than six months old and information should not be used for future projects.

To insure appropriate use of this information, users are encouraged to consult with WDFW biologists.

MAIN DATA SOURCES

Priority Habitats and Species polygon, Habitat point, Klickitat County Oak, Wildlife Survey Data Management polygon/point, Spotted Owls, Seal/Sea Lion Haulouts, 1:24K streams and fish presence data: Ws. Dept. of Fish and Wildlife. Seabird Colony data: US National Oceanic and Atmospheric Administration. Kelp Bed, Oak Stand, Eelgrass, Turf Algae and Township/Section data: Ws. Dept. of Natural Resources. Wetland data: US Fish and Wildlife Service, National Wetlands Inventory. 1:24K Quadrangle Image: US Geological Survey.



Map Legend

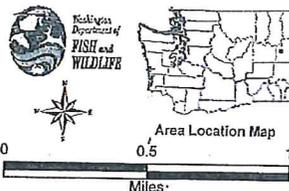


Priority Habitats/Species:

- Priority Habitats and Species (PHS) Polygon Borders
- Priority Wildlife Areas (WSDM)
- Priority Wildlife Sites (WSDM)
- Priority Habitat Sites
- Marbled Murrelet Occupancy Sites
- Spotted Owl Sites - Status 1-3
- Spotted Owl Sites - Status 4
- Priority Seabird Colonies
- Priority Seal/Sea Lion Haulouts
- Priority Fish Presence
- National Wetlands Inventory
- Oak Stands
- Kelp Beds
- Eelgrass
- Turf Algae

Other Habitats/Species:

- Other Seabird Colonies
- Other Seal/Sea Lion Haulouts
- Spotted Owl Management Circles Established Territory
- Spotted Owl Management Circles Insufficient Evidence to Establish Territory
- Marbled Murrelet Detection Sections (WDFWSTAT 1 through 3)
- Marbled Murrelet Buffers (Status 1 through 4)
- Other Symbols:**
- Rivers and Streams
- Section Lines
- Township Lines



The plant or animal plant communities described below do not occur on the EMFCO property.

Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp.

The WDF&W PHS list defines Eastside Steppe as follows.

"Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho Fescue (*Festuca idahoensis*), Sandberg Bluegrass (*Poa secunda*), Rough Fescue (*F. campestris*), or needlegrass (*Achnatherum* spp.). Steppe plant communities in drier sites typically have a sparse cover of grasses and forbs. Meadowlike communities characterized by a very dense cover of native perennial forbs and bunchgrasses are supported in areas with greater precipitation or on soils with higher moisture-holding capacity. Shrubs are either absent or scattered in the overstory of steppe habitat (see Shrub-steppe for sites with more prominent shrub cover). When sparse shrub cover is present, sagebrush (*Artemisia* spp.) and rabbitbrush (*Chrysothamnus* spp.) are commonly found in drier steppe, while Bitterbrush (*Purshia tridentata*), Common Snowberry (*Symphoricarpos albus*) and rose (*Rosa* spp.) are often present in more meadowlike expressions. Sites with less disturbed soils often have a layer of algae, mosses, or lichens. At some more disturbed sites, non-native species such as Cheatgrass (*Bromus tectorum*), Spotted Knapweed (*Centaurea biebersteinii*), Yellow Star-thistle (*Centaurea solstitialis*), or Kentucky Bluegrass (*Poa pratensis*) may be co-dominant species."

The WDF&W PHS list defines Shrub-Steppe as follows.

A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover). Although Big Sagebrush (*Artemisia tridentata*) is the most widespread shrub-steppe shrub, other dominant (or co-dominant) shrubs include Antelope Bitterbrush (*Purshia tridentata*), Threetip Sagebrush (*A. tripartita*), Scabland Sagebrush (*A. rigida*), and Dwarf Sagebrush (*A. arbuscula*). Dominant bunchgrasses include (but are not limited to) Idaho fescue (*Festuca idahoensis*), Bluebunch Wheatgrass (*Pseudoroegneria spicata*), Sandberg Bluegrass (*Poa secunda*), Thurber's Needlegrass (*Achnatherum thurberianum*), and Needle-and-Thread (*Hesperostipa comata*). In areas with greater precipitation or on soils with higher moisture-holding capacity, shrub-steppe can also support a dense layer of forbs (i.e., broadleaf herbaceous flora). Shrub-steppe contains various habitat features, including diverse topography, riparian areas, and canyons. Another important component is habitat quality (i.e., degree to which a tract resembles a site potential natural community), which may be influenced by soil condition and erosion; and the distribution, coverage, and vigor of native shrubs, forbs, and grasses. Sites with less disturbed soils often have a layer of algae, mosses, or lichens. At some more disturbed sites, non-natives such as Cheatgrass (*Bromus tectorum*) or Crested Wheatgrass (*Agropyron cristatum*) may be co-dominant species.

Sagebrush habitats in North America are highly imperiled due conversion to agricultural lands, removal of sagebrush, and planting of introduced grasses (Knick et al. 2003). In Washington State, half of the historical shrubsteppe has been converted to agriculture. The resulting fragmentation of habitat and loss of deep-soil communities (Jacobson and Snyder 2000, Vander Haegen et al. 2000). affects the distribution of birds (Knick and Rotenberry 1995, Vander Haegen et al. 2000), possibly their reproductive success (Knick et al. 2003). The relationship between habitat fragmentation, nest survival, parasitism rates, and seasonal reproductive success of passerines in the shrubsteppe of eastern Washington. Three sagebrush obligates, Brewer's Sparrow (*Spizella Breweri*), Sage Sparrow (*Amphispiza belli*), and Sage Thrasher (*Oreoscoptes montanus*), species of conservation concern largely define the avifauna of Intermountain sagebrush ecosystems (Braun et al. 1976, Knick et al. 2003)."