
MEMORANDUM

TO: CHRIS TAYLOR, ZILKHA RENEWABLE ENERGY
FROM: RANDALL KRICHBAUM, EAGLE CAP CONSULTING INC.
SUBJECT: KITTITAS VALLEY PROJECT - SCHOBER PARCEL VEGETATION DISCUSSION
DATE: NOVEMBER 26, 2002
CC:

Introduction: In order to assist with mitigation planning for the Kittitas Valley Wind Power Project, the following discussion of habitat conditions within the portion of land known as the Schober Parcel has been prepared. This discussion concerns itself only with that part of the parcel lying north of the canal road, and takes in parts of Sections 22 and 27, Township 19N, Range 17E, Willamette Meridian. The parcel consists of portions of two broad-topped north-south trending ridges, with an unnamed creek and associated canyon running between them. Approximately 551 acres are contained within the Schober Parcel north of the canal road.

Cover Types Present: The updated cover type map for the Kittitas Valley Project includes the entire Schober parcel, and is on file at Zilkha's Portland Office. Within the parcel (north of the canal road), five different cover types have been mapped. The largest of these is the Shrub-Steppe type, with a total areal extent of 351 acres (or 64% of the parcel). These are areas dominated by tall shrubs, primarily bitterbrush (*Purshia tridentata*), containing an understory of native bunchgrasses (or in disturbed areas cheatgrass [*Bromus tectorum*]). The category was further broken down based on the relative spatial density of the shrub layer (Dense, Moderate, and Sparse sub-categories). Within the Schober Parcel, 278 acres (50% of the parcel) were categorized as Moderately Dense Shrub-Steppe, and 74 acres (13% of the parcel) were classed as Sparse Shrub-Steppe.

The majority of the remaining ground (189 acres or 34% of the parcel) was classed as Grassland habitat. This cover type includes a variety of plant associations, all dominated by grass species. In most cases these are bunchgrasses, such as Sandberg's bluegrass (*Poa secunda*) or bluebunch wheatgrass (*Pseudoroegneria spicata*), but disturbed areas are sometimes dominated by cheatgrass or bulbous bluegrass (*Poa bulbosa*). The majority of the grassland habitat, is located on the westernmost ridgetop, and is likely the result of a recent fire that has removed most of the shrub component. The habitat now consists of a mix of native and non-native grasses and forbs, with widely scattered small shrubs.

Two cover types are exclusively associated with the unnamed creek that runs through the middle of the parcel. The largest of these is the Riparian Tree category which is present on approximately eight acres (1.5%) of the parcel. This cover type includes areas within riparian zones dominated by trees. Primarily this includes hydrophytic species such as cottonwoods

(*Populus balsamifera* ssp. *trichocarpa*), but scattered conifers are also present in some areas. In addition, one 2.8 acre area (0.5% of the parcel) above the creek was typed as Deciduous Shrub Thicket. This cover type describes upland areas dominated by deciduous shrubs. Typical shrub species for this cover type include chokecherry (*Prunus virginiana*), bittercherry (*Prunus emarginata*), oceanspray (*Holodiscus discolor*), common snowberry (*Symphoricarpos albus*), and serviceberry (*Amelanchier alnifolia*).

The final cover type within the parcel is the Open Water type, which was found on only 0.5 acres (0.1% of the parcel). This represents two small areas where an irrigation canal runs through the parcel.

Habitat Condition: In the habitat descriptions that follow, ratings of habitat quality are based on general observed patterns of plant species diversity, native versus non-native species ratios, and overall vegetative structure. The habitat ratings are qualitative only, based on general visual observations. Quantitative vegetative information was not collected. The following categories were used: ‘Excellent’ (high species diversity with negligible amounts of non-native weedy species, along with well developed native vegetative structure); ‘Good’ (moderate to high species diversity dominated by native plants, with significant inclusions of non-native species in certain areas, and fair to well-developed native vegetative structure); ‘Fair’ (moderate diversity with non-native species dominance or co-dominance in some or all layers, and fair native structure); and ‘Poor’ (low species diversity, dominated by non-native, weedy invaders in some or all layers, and poor native vegetative structure).

The eastern ridgetop contains primarily shrub-steppe habitat in fair to good condition (Photo 1). Native shrubs (primarily bitterbrush) and forbs dominate most of this area, with a mixture of native and non-native grasses. Areas along the jeep trails and canal road contain a higher percentage of non-native species. There are also several small inclusions of lithosol (shallow-soiled) habitat on this ridge (Photo 2). These are in good condition, dominated by native bunchgrasses (primarily Sandberg’s bluegrass), as well as native forbs and low shrubs.

The western ridgetop, for most of the Schober portion, has recently burned. The habitat now consists of a mix of native and non-native grasses and forbs, with widely scattered small shrubs (Photo 3). Habitat quality is generally fair. Weedy species are more common in the deeper-soiled areas, and several populations of noxious weeds are present. Further up the ridgeline, there is an unburned portion that is similar in condition to the eastern ridgetop (*i.e.* fair to good condition dominated by native shrubs and forbs, and a mix of native and non-native grasses).

The creek bottom ranges in habitat quality along its length. The upper portions are in poor to fair condition, with little development of riparian vegetation (Photo 4). Non-native species are common in these upper portions, although native species still dominate in areas. The creek appears to be intermittent in this upper section. Lower down, the creek bottom is in fair to good condition. Riparian vegetation is better developed and the creek flows late into the summer (Photos 5 and 6). Riparian trees and shrubs are present along this lower reach, and in places are dense and well-developed.

Enhancement Options: Overall, the Schober Parcel is in fair to good condition. However, several opportunities for enhancement exist that would be expected to raise habitat quality further. Primary among these is management and control of cattle grazing within the entire parcel, and especially within the riparian zone. A grazing management plan could be developed that reduces or eliminates cattle pressure on the most sensitive portions, and allows for re-establishment of native vegetation in specific problem areas.

Although high concentrations of noxious weeds were not found within the parcel, scattered patches and individuals (primarily diffuse knapweed [*Centaurea diffusa*]) are present throughout. An overall noxious weed control effort for the parcel, perhaps incorporating a variety of techniques (chemical, mechanical, cultural, etc.), would likely be effective at reducing or eliminating noxious weeds from the site, increasing the habitat quality and effectiveness.

Finally, certain areas could benefit from active revegetation efforts. Specifically, shrub replanting of the burned area on the western ridgetop could hasten the re-establishment of vegetative structure in that area, and reduce non-native species encroachment. In addition, certain areas along the creek would benefit from riparian replanting designed to re-establish native species in certain problem areas.

Photo 1: Shrub-Steppe Habitat Along the Eastern Ridgetop



Photo 2: Lithosol Habitat Along the Eastern Ridgetop



Photo 3: Recently Burned Habitat Along the Western Ridgetop



Photo 4: Creek Bottom in Upper Portion of Parcel



Photo 5: Creek Bottom in Lower Portion of Parcel (Canal Road in Foreground)



Photo 6: Overview of Creek in Lower Portion of Parcel (Western Ridge in Background)

