

APPENDIX E.3.2

***TECHNICAL MEMORANDUM FOR
VEGETATION/HABITAT MAPPING***

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Vegetation and habitat mapping was conducted for all lands within the Project FERC Boundary.

1.0 Study Methods

1. Vegetation and non-vegetated areas were mapped initially in GIS on aerial images of the Project Area. Existing vegetation maps for the area were referenced in this step. Vegetation categories included wetlands, coded with the term “herbaceous” in accordance with the usage in the 1991 application (PUD 1991).
2. The resulting vegetation maps were field-verified in July 2006, in conjunction with the other botanical studies.
3. The GIS vegetation map was revised to incorporate the field verification data.
4. The final vegetation/habitat GIS data was used to provide acreages and locations of vegetation/habitat types for incorporation in the license application as data and figures.

2.0 Results

Five vegetation communities were mapped in the Project Area, both in the 1991 license application and again in 2006 (Figure 1). These communities are shrub-steppe, upland meadow, riparian forest, riparian shrub, and herbaceous wetland. Acreages for each community are provided in Table 1.

The shrub-steppe community occurs throughout the Project Area on hillsides above the river. It is the most extensive community, covering approximately 27.0 acres in the Project Area. Dominant species in this community include big sagebrush (*Artemisia tridentata*), threetip sagebrush (*Artemisia tripartita*), bitterbrush (*Purshia tridentata*), grey rabbitbrush (*Chrysothamnus nauseosus*), bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*).

A deciduous component of the shrub-steppe community occurs in draws and the steepest slopes of the hillsides on both sides of the river. Common shrub species in these areas are smooth sumac (*Rhus glabra*), serviceberry (*Amelanchier* spp.), Wood's rose (*Rosa woodsii*). Rocky Mountain maple (*Acer glabrum*) occurs in some stands of this community. Scattered ponderosa pine trees (*Pinus ponderosa*) occur within the shrub-steppe community, particularly with the deciduous component.

The upland meadow community occurs where shrub steppe vegetation has been cleared and replaced by grasses and forbs. This community occupies approximately 4.3 acres in the Project Area and occurs primarily at two locations. Both of these locations are old homestead sites, with the larger situated near Enloe Dam on the east bank of the river.

Riparian forest in the Project Area consists of stands of woody vegetation from 12 to 80 feet tall. This community occupies approximately 2.9 acres in the Project Area and is found primarily along the reservoir. The largest stand is on the east bank of the river at Enloe Dam.

Stands of riparian forest on the east side of the river have been burned since 1991. Many of the larger black cottonwoods are at least partly dead, although resprouting is occurring.

The riparian shrub community consists of woody vegetation that is less than 12 feet tall. This community occupies approximately 7.4 acres in the Project Area and is found primarily along the east bank of reservoir where the slope is gentle. It also occurs as a narrow fringe elsewhere along the reservoir.

The herbaceous wetland community is found on wet or seasonally flooded areas. This community occupies approximately 3.5 acres in the Project Area and occurs in scattered patches on low-elevation terraces immediately adjacent to the reservoir.

Several types of unvegetated areas are found in small portions of the Project Area. These areas include rock outcrops along the hillside slopes, bare soil, and sand and gravel bars (unconsolidated shore) along the reservoir shoreline. Some sandbars support a sparse herbaceous cover and intergrade with the herbaceous meadow community. The open water of the reservoir (76.8 acres) and the Similkameen River downstream of Enloe Dam (4.2 acres) comprise most of the Project Area.

Developed areas exist within the Project Area. These areas include the dam itself, the old powerhouse, and various roads. These areas are generally unvegetated.

Table 1: Vegetation Communities/Habitats in the Project Area

Community	Acres
Shrub-steppe	27.0
Riparian forest	2.9
Riparian shrub	7.4
Upland meadow	4.3
Herbaceous wetland	3.5
Unconsolidated shore	5.0
Rocky cliff	4.2
Developed	1.1
Reservoir	76.8
Riverine, downstream	4.2

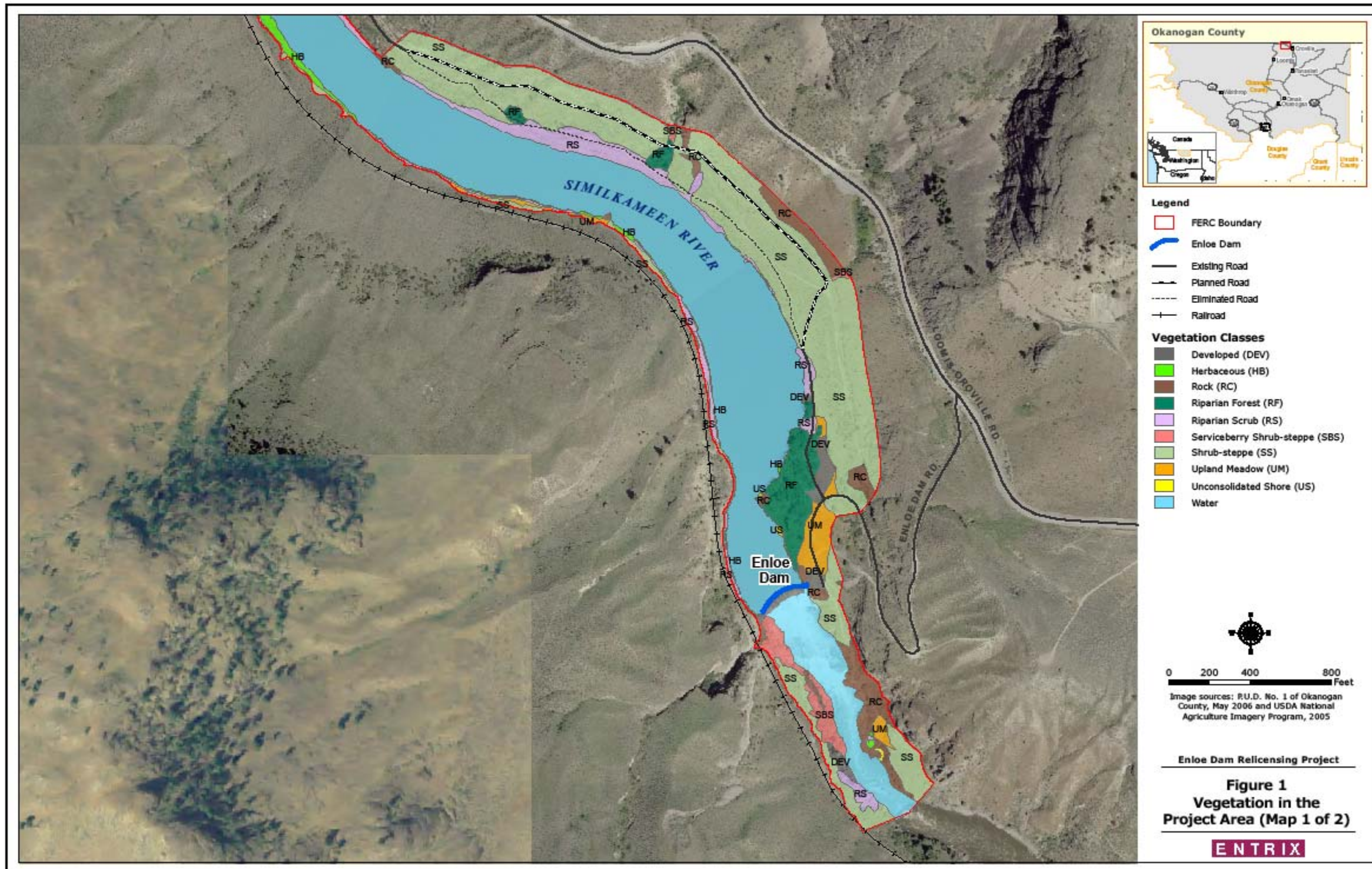
3.0 Conclusions

Vegetation communities within the Project Area that could be affected by Project construction and operations include two upland vegetation types, two woody riparian communities, and one herbaceous wetland community. Other habitats in the Project Area include rocky cliffs and outcrops, bare soil, sand and gravel bars, and developed areas.

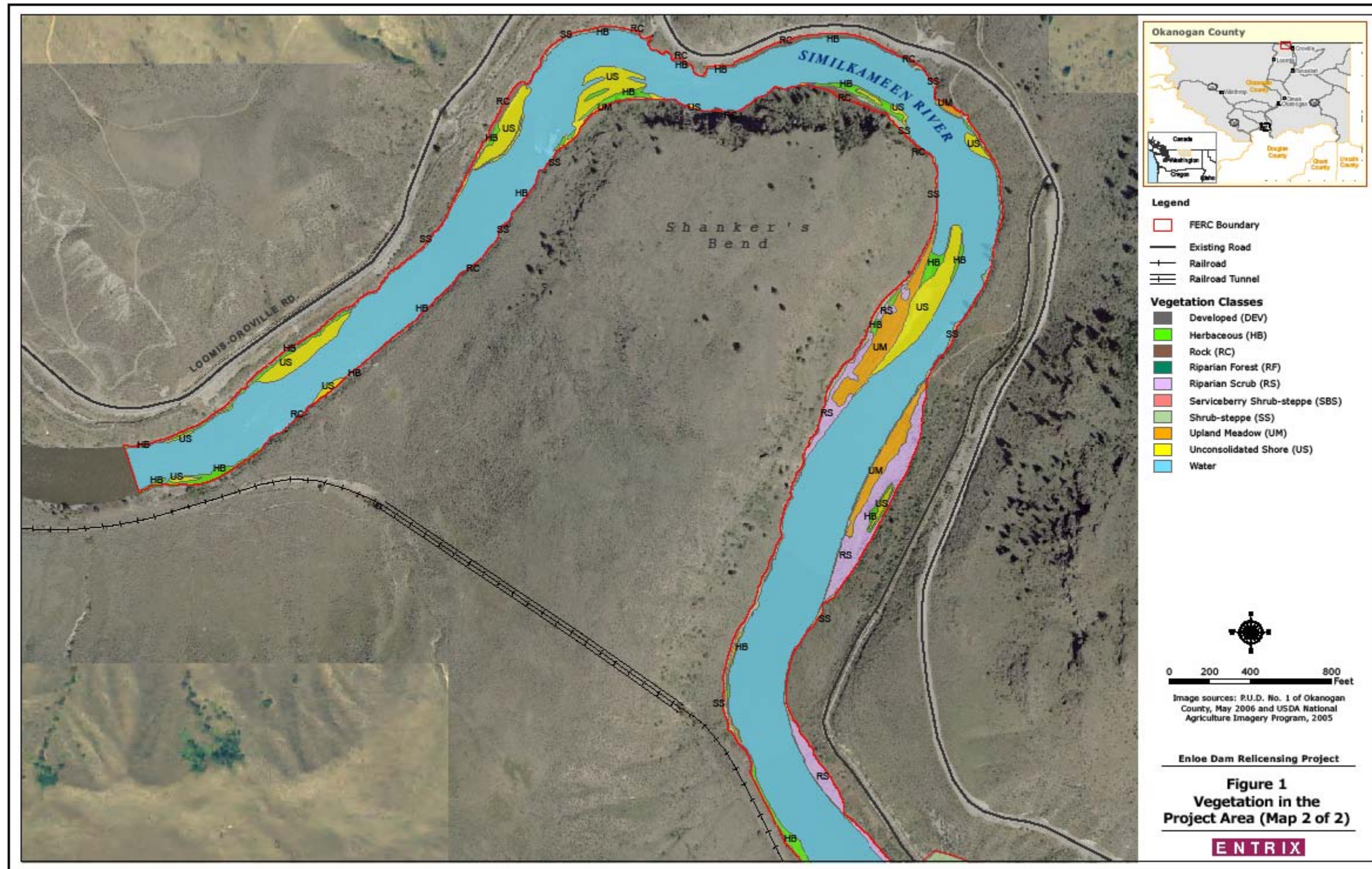
4.0 References

Franklin, J. F. and C. T. Dryness. 1988. Natural Vegetation of Oregon and Washington. Oregon State University Press.

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