**Creation of ECOPROV\_Ecosystems Table**

Source data for this table was downloaded from the NatureServe Website (http://www.natureserve.org/getData/USecologyData.jsp). The target area, the Columbia River Basin CRB, was composed of three regional sections of a National Vegetation Map. Regions One, Six, and Eight were downloaded and mosaiced together using the ‘Mosaic to New Raster’ tool in ArcGIS. The resulting Layer was exported to a geoTiff format (*nsveg\_1\_6\_8a.tif*, located in: Q:\Projects\Data\Natureserve\). All fields from the original NatureServe datasets were then added to the new dataset and the fields were populated using the Join function and the Field Calculator Tool. With a completed coverage it was then possible to overlay a polygon layer of the CRB Eco-Provinces (*crbecos0*, located in: Q:\Projects\Data\NWHI\CRB\crbecos0) and use the Tabulate Area tool to calculate the number of acres of each Ecological System, ESLF occurring in each Eco-Province. As the Ecological Systems names were truncated in the process, the process was rerun on the value field which contains a unique value for each ESLF Ecological System Type. This table (*tabarea\_nsveg\_1\_6\_8\_Value*, Located in: Q:\Projects\Data\Natureserve) was Imported into Microsoft Access along with the *crbecos0* attribute table and a query was run to match the value field with the ESLF Label. The resulting table was then imported into Microsoft Excel and named ECOPROV\_Ecosysystems, additional summary statistics were calculated in Excel.

Additionally the NatureServe data sets included cross walked fields to other major classification systems including the National Land Cover Data, Level 1 Classification and the National Vegetation Classification Subclass, Class, and Formation Levels.

**Relationship between Natureserve: Terrestrial Ecological Systems Classification and USGS GAP Analysis**

The Terrestrial Ecological Systems Classification is not strictly a hierarchical system as is the National and International Vegetation Classification systems (NVC/IVC) it is built off of. Natureserve defines a terrestrial ecological system:

“as a group of plant community types (associations) that tend to co-occur within landscapes with similar ecological processes, substrates, and/or environmental gradients. A given terrestrial ecological system will typically manifest itself in a landscape at intermediate geographic scales of 10s to 1,000s of hectares and persist for 50 or more years. The classification produced here is at a “meso-scale,” both spatially and temporally, and the specific spatial and temporal scales are further refined by the biotic and ecological distinctiveness of the system. Our goal was to provide a set of such system types for conservation and resource management applications. Other classifications, which are typically hierarchically arranged, do well at either micro or macro scales. We show how our classification both relies on those efforts and can be linked to them. In fact, the floristic units of the IVC/NVC are an integral part of defining the concepts and spatial limits of the system types. At this time, we focus on a single system level, defined by modular diagnostic classifiers that help to describe the essential ecological and vegetational characteristics of the type. We used an expert-based approach to define a “working set” of system types, and outline further steps for their ongoing development.

This effort resulted in the identification and description of 599 upland and wetland ecological system types within the project area. They represent the full range of natural gradients, with some 381 types (63%) being uplands, 183 types (31%) being wetland, and 35 types (6%) being complexes of uplands and wetlands. Excluding upland/wetland complexes, some 322 types (54%) are predominantly forest, woodland, and/or shrubland, and some 166 types (28%) are predominantly herbaceous, savanna, or shrub steppe. Seventy-four types (12%) are sparsely vegetated or “barren.”

Further information on the Terrestrial Ecological Systems can be found in the publication (Comer et al. 2003) (Located: <http://www.natureserve.org/library/usEcologicalsystems.pdf>)

The ESLF has been used extensively in the development of other data layers including the GAP land coverage’s . According to the GAP website:

“The GAP national land cover data, based on the NatureServe Ecological Systems Classification, is the most detailed, consistent map of vegetative associations ever available for the United States and will help facilitate the planning and management of biological diversity on a regional and national scale.  The national map contains 551 Ecological Systems and modified Ecological Systems (the modified ecological systems represent 32 land use classes which depict developed and/or disturbed land cover classes).”….  “For areas of the continental United States where ecological system-level GAP data has not yet been developed, data from the [LANDFIRE](http://www.landfire.gov/) project compiled by [Landscope](http://www.landscope.org/) was used.”

The specific use of the ESLF data in GAP mapping is further described in The Pacific Northwest Regional Gap Analysis Project Final Report on Land Cover Mapping Methods. According to this report “Vegetation classes were drawn from NatureServe's Ecological System Classification (Comer et al. 2003). Additionally, all of the projects included land use classes that were employed to describe areas where natural vegetation has been altered. In many areas of the country these classes were derived from the National Land Cover Dataset (NLCD). For the majority of classes and, in most areas of the country, a decision tree classifier was used to discriminate ecological system types. In some areas of the country, more manual techniques were used to discriminate small patch systems and systems not distinguishable through topography.” (<http://lc.gapanalysisprogram.com/landcoverviewer/PDF/LandCover_Metadata.pdf>)

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