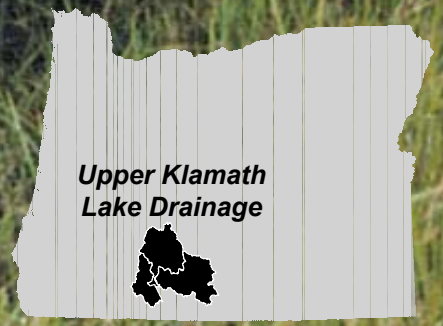
Upper Klamath Lake Drainage Land Cover Assessment

Methodology

DEQ
State of Oregon
Department of
Environmental
Quality



North Fork Sprague River

Land Cover Assessment Methodology

Step 1. Land cover polygons and stream polylines are digitized from 1998 color aerial photos. All digitized polygons are drawn to capture visually like land cover features. All digitized line work is completed at 1:5,000 or less.

Step 2. Basic land cover types are developed and assigned to individual polygons. The land cover types used in this effort are aggregate land cover groups, such as: conifers, hardwoods, shrubs, etc.

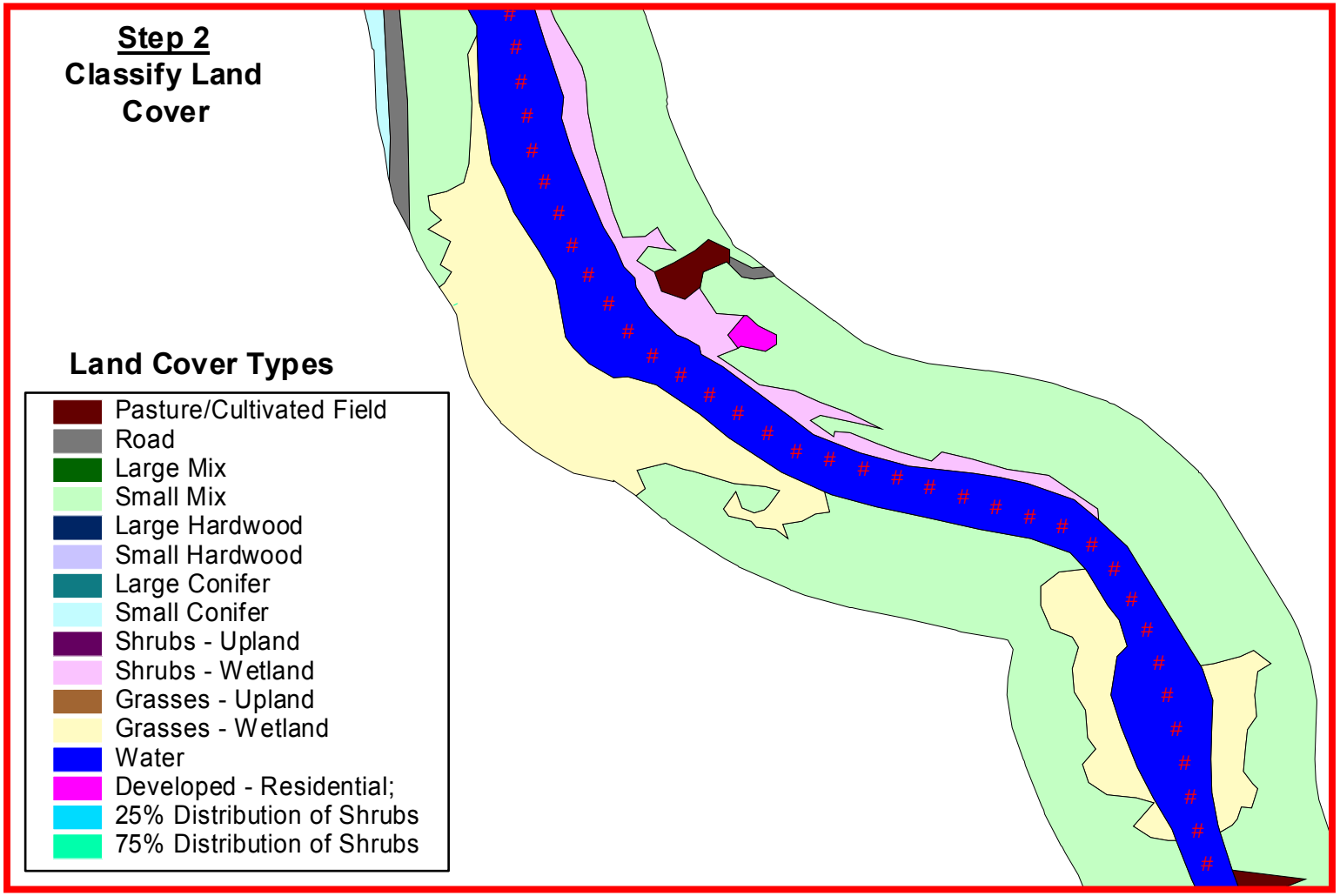
Step 3. Through simple assumptions regarding land cover succession and by examining land cover types adjacent to major anthropogenic disturbance areas (i.e. clearcuts, roads, cultivated fields, etc.), it is possible to develop a rule set that can be used to estimate potential land cover conditions. For example, small conifers are assumed to have the potential to become large conifers. A high and low range is developed in areas where uncertainty remains about land cover succession or the potential for recovery.

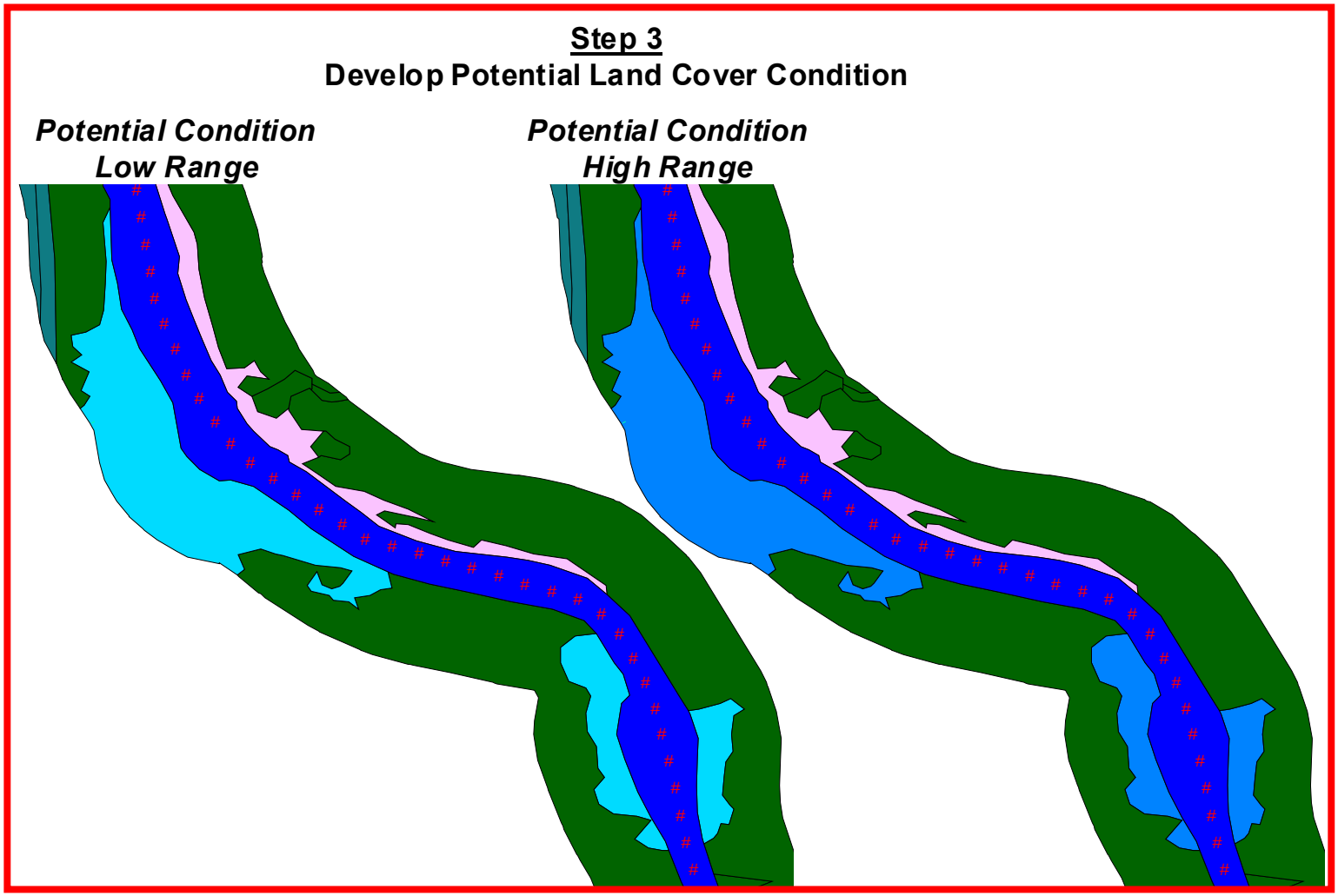
Step 4. Automated sampling is conducted on classified land cover spatial data sets in 2-dimensions. Every 100 feet along the stream (i.e. in the longitudinal direction), both stream banks are sampled every 15 feet, starting at the channel edge, out to 135 feet. This sampling rate results in 950 measurements of land cover per every mile of stream.

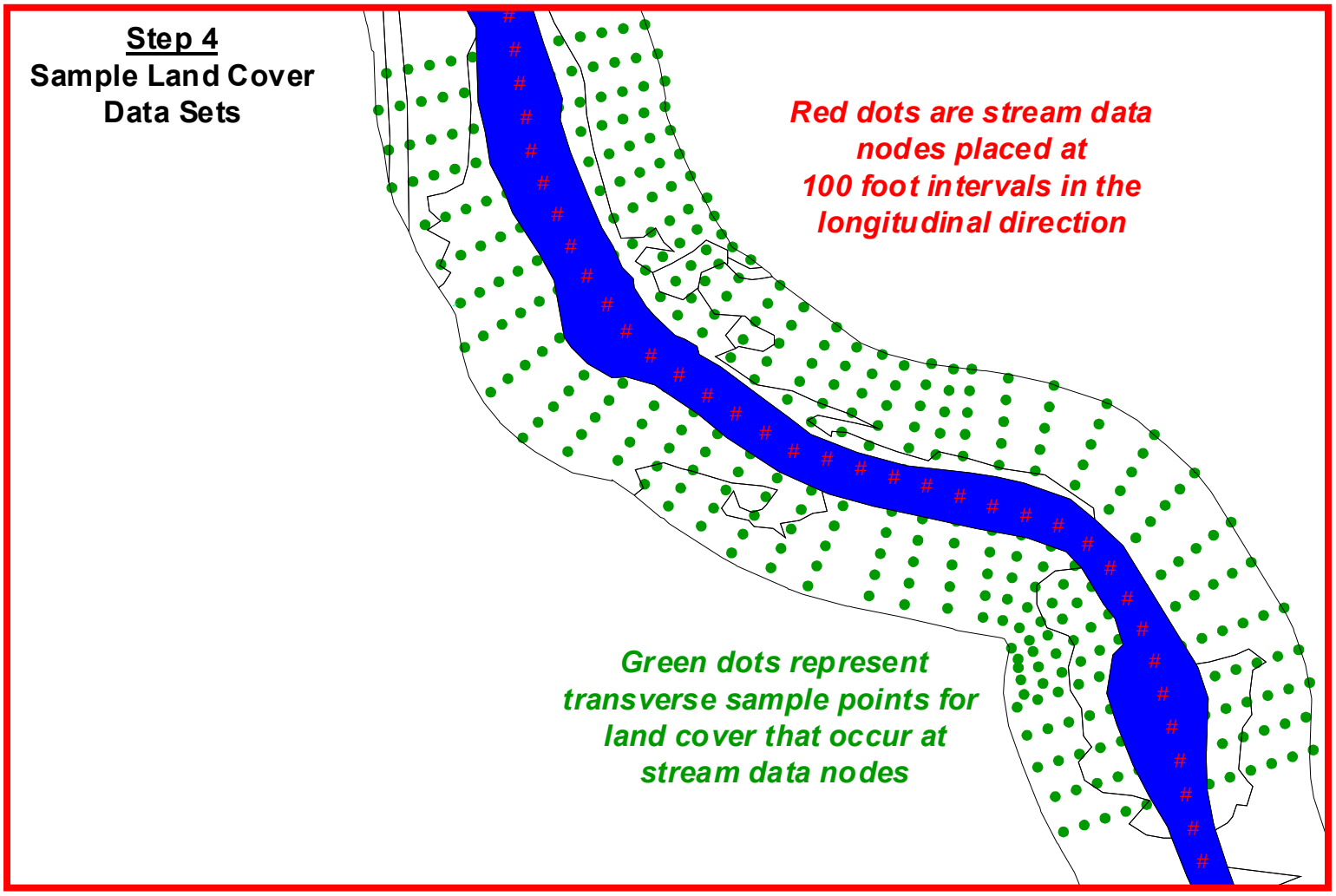
Step 5. Ground level land cover data is statistically summarized and sorted by land cover type. Median values for land cover height and density can then be used to describe land cover classifications.

Step 6. Land cover physical attributes can then be described in 2-dimensions since automated sampling occurs in both the longitudinal and transverse directions.

Step 1
Digitize Land Cover Polygons and Stream Polyline at 1:5,000


Step 2
Classify Land Cover
Land Cover Types
Pasture/Cultivated Field
Road
Large Mix
Small Mix
Large Hardwood
Small Hardwood
Large Conifer
Small Conifer
Shrubs - Upland
Shrubs - Wetland
Grasses - Upland
Grasses - Wetland
Water
Developed - Residential;
25% Distribution of Shrubs
75% Distribution of Shrubs

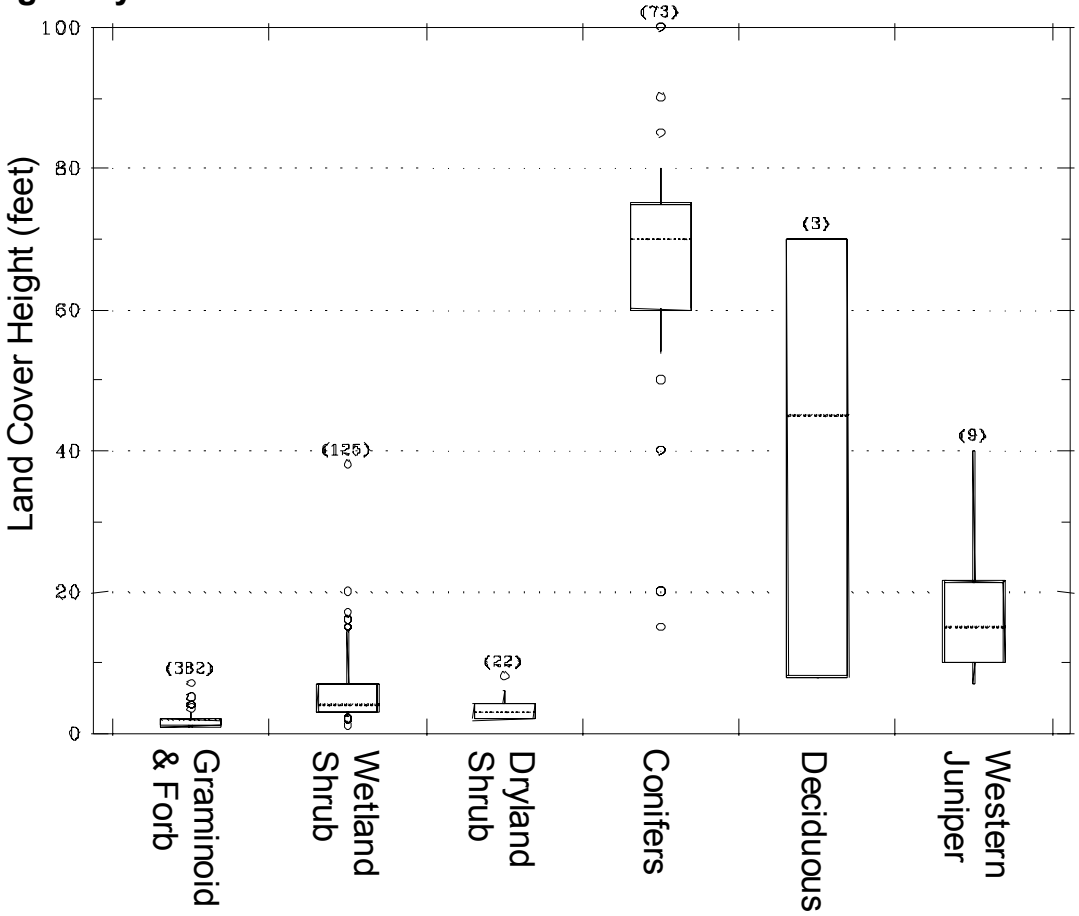

Step 3
Develop Potential Land Cover Condition
Potential Condition
Low Range
Potential Condition
High Range


Step 4
Sample Land Cover
Data Sets
Red dots are stream data
nodes placed at
100 foot intervals in the
longitudinal direction
Green dots represent
transverse sample points for
land cover that occur at
stream data nodes

Step 5

Assign Physical Attributes to Classifications

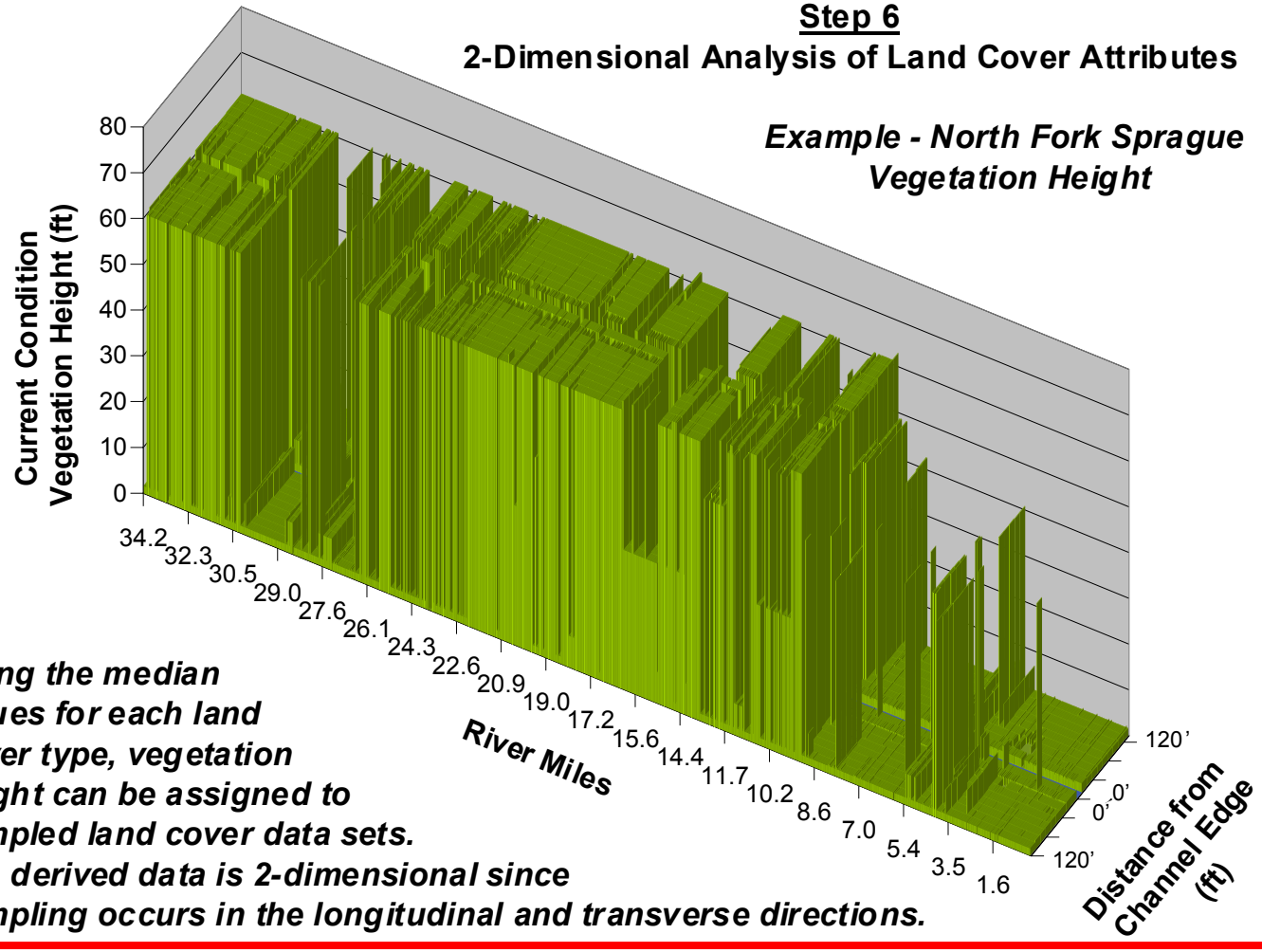
Ground level land cover data is statistically summarized and sorted by vegetation type. Median values allow a general description based on site specific data collected in the study area. Vegetation height is used here as an example.



Step 6

2-Dimensional Analysis of Land Cover Attributes

Example - North Fork Sprague Vegetation Height



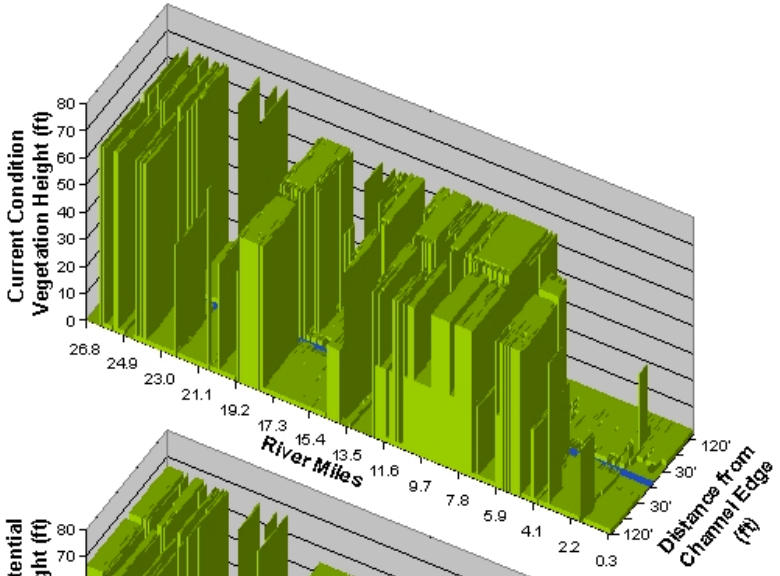
Using the median values for each land cover type, vegetation height can be assigned to sampled land cover data sets. The derived data is 2-dimensional since sampling occurs in the longitudinal and transverse directions.

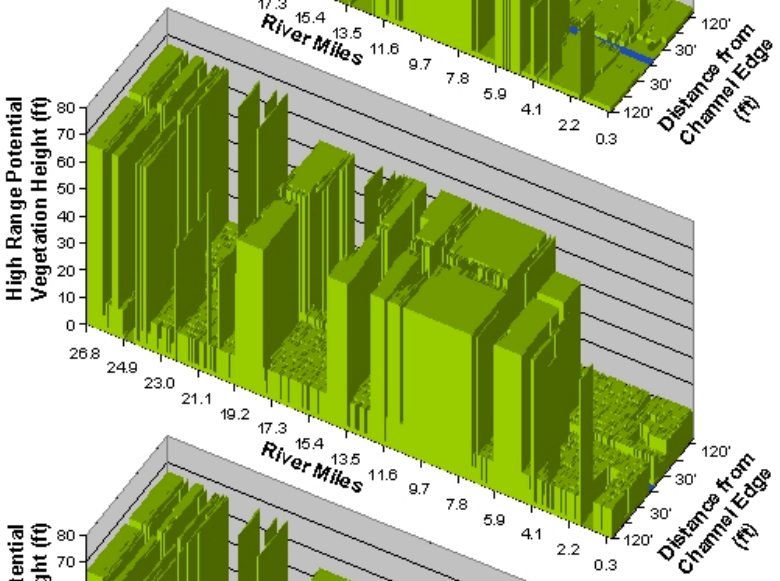
Upper Klamath Lake Drainage Land Cover Assessment

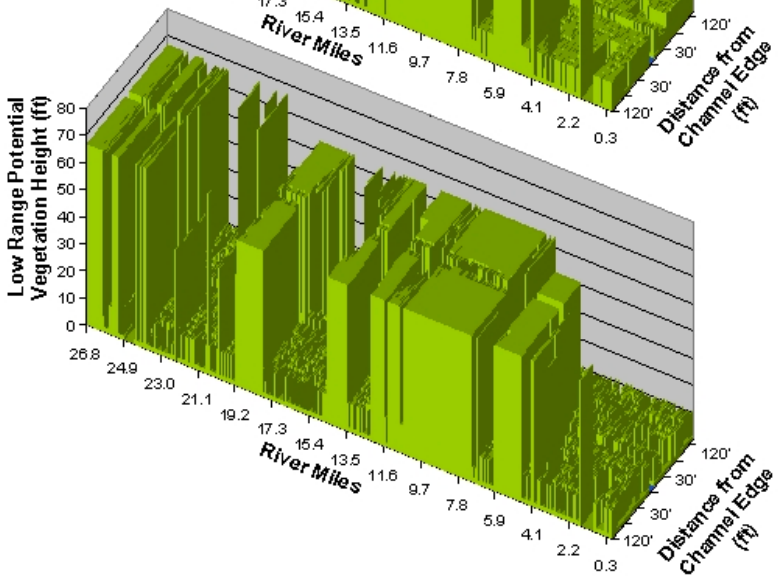
Results

South Fork Sprague River

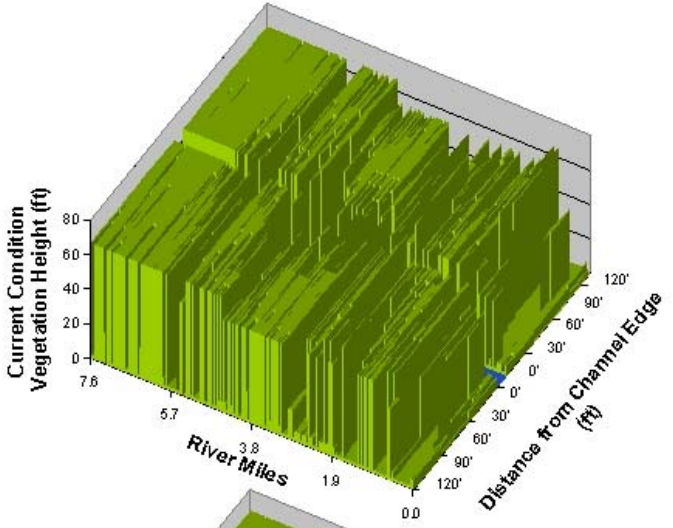
Fishhole Creek

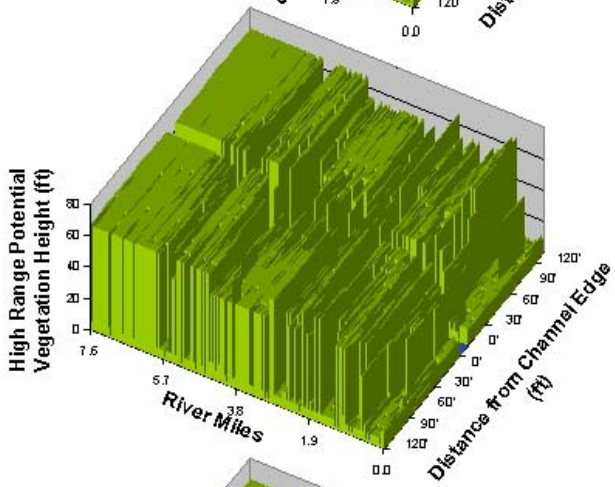


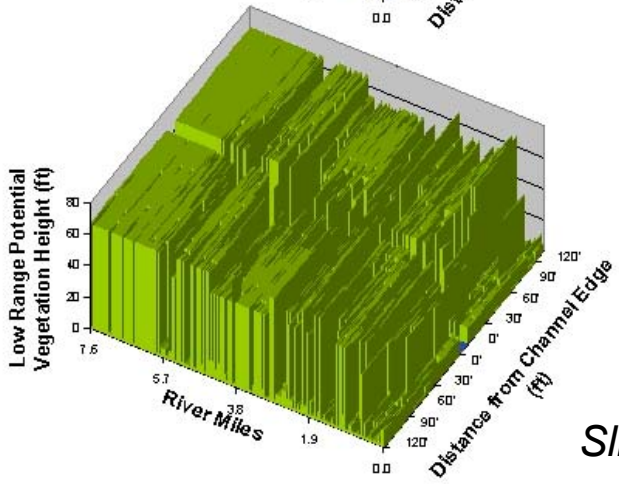




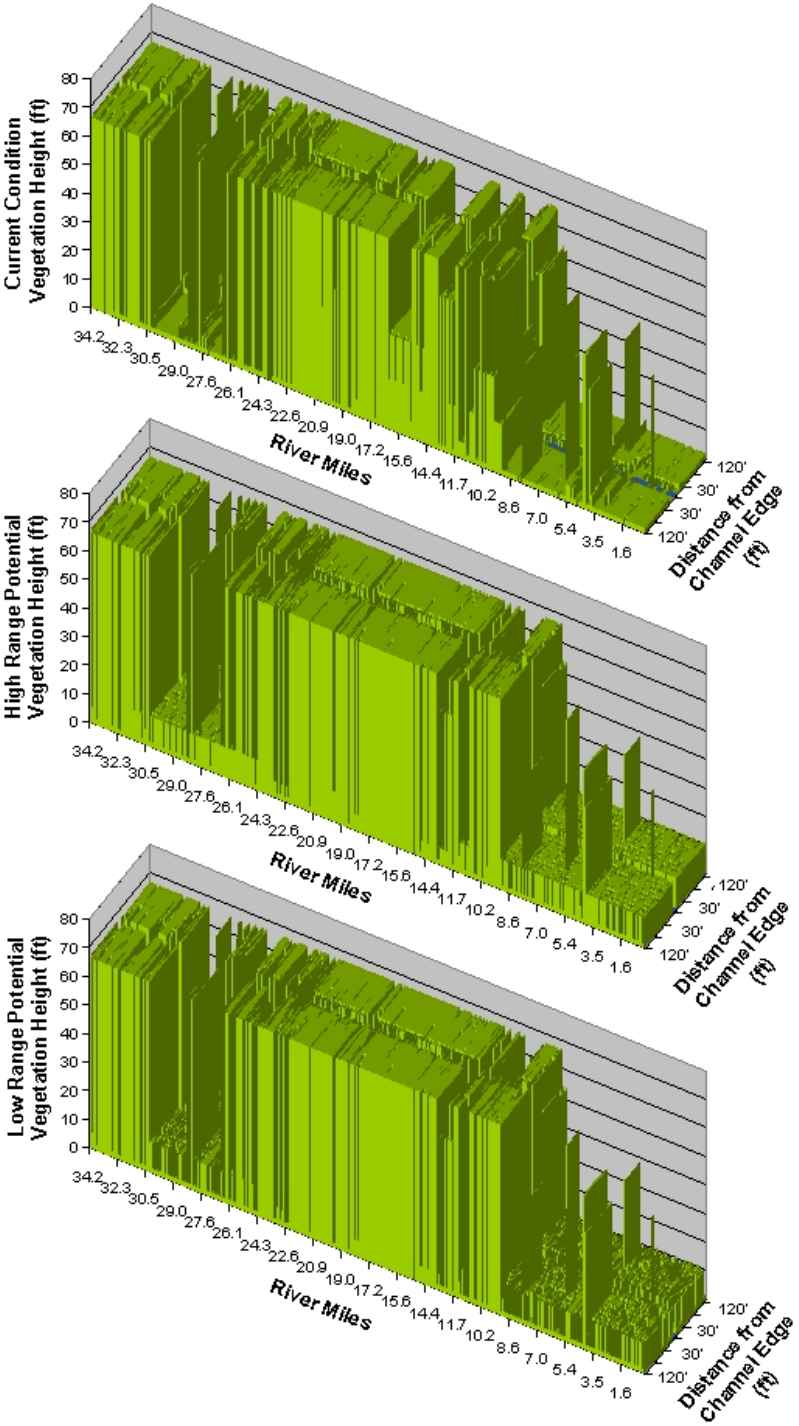
Trout Creek



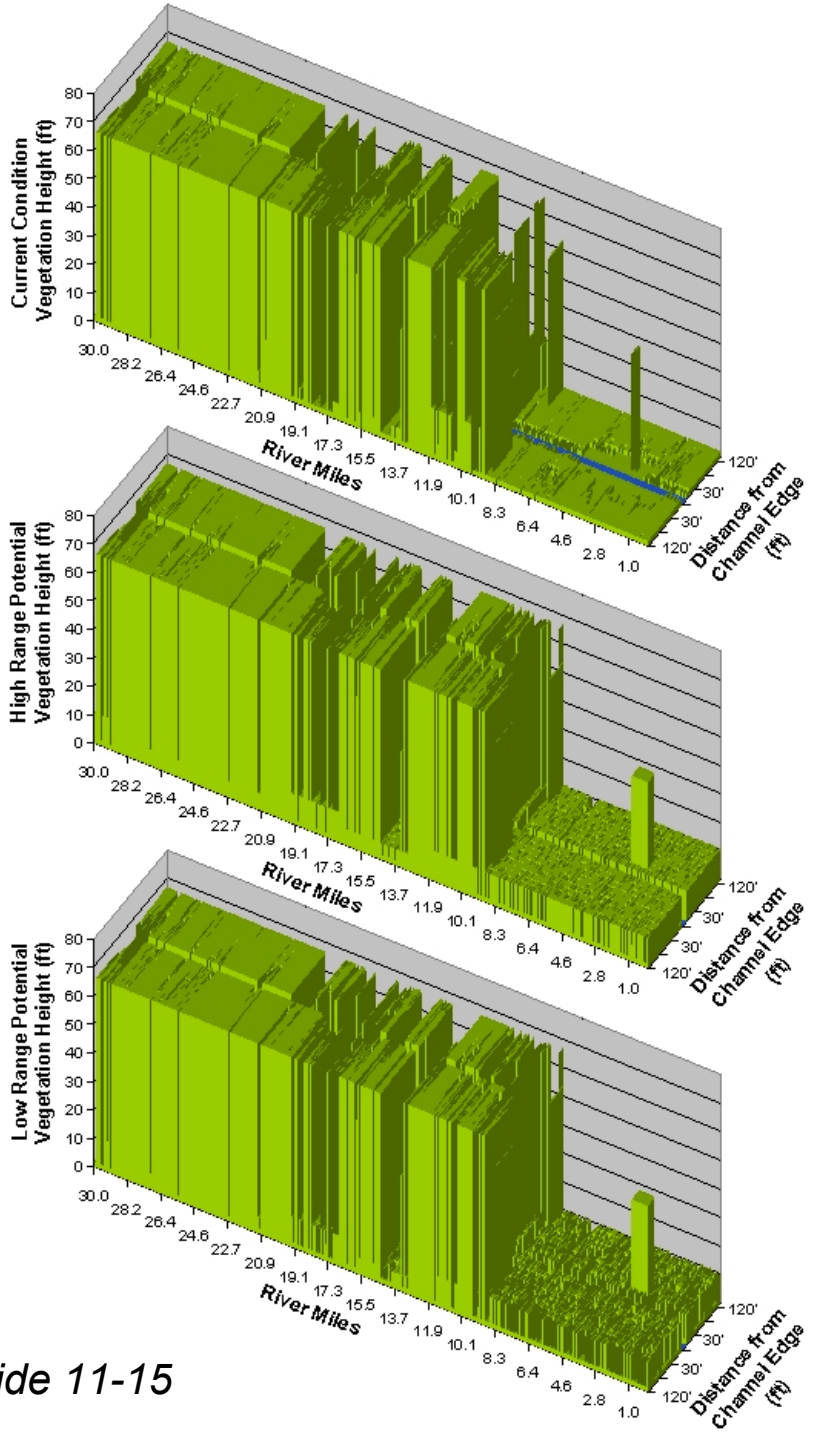




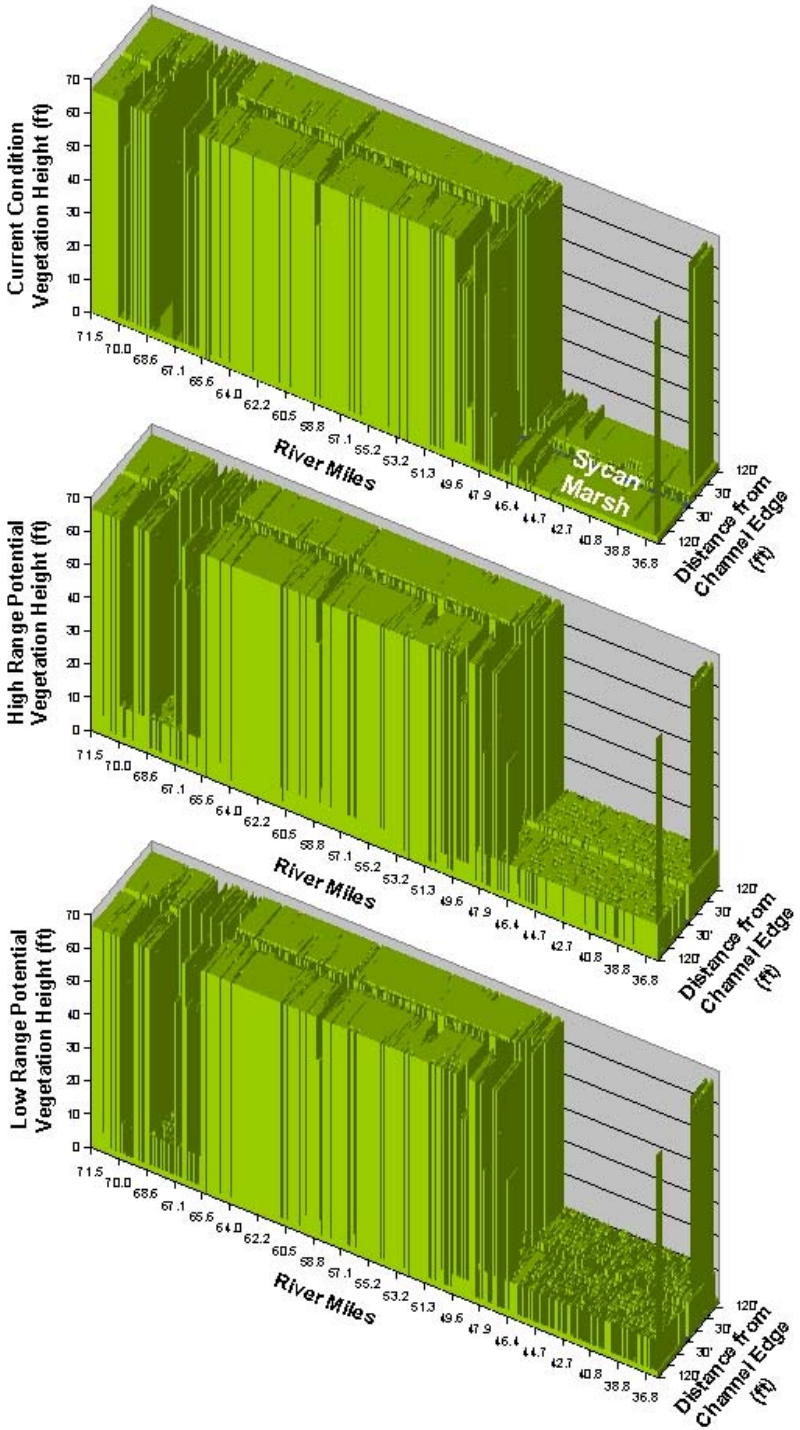
N.F. Sprague River



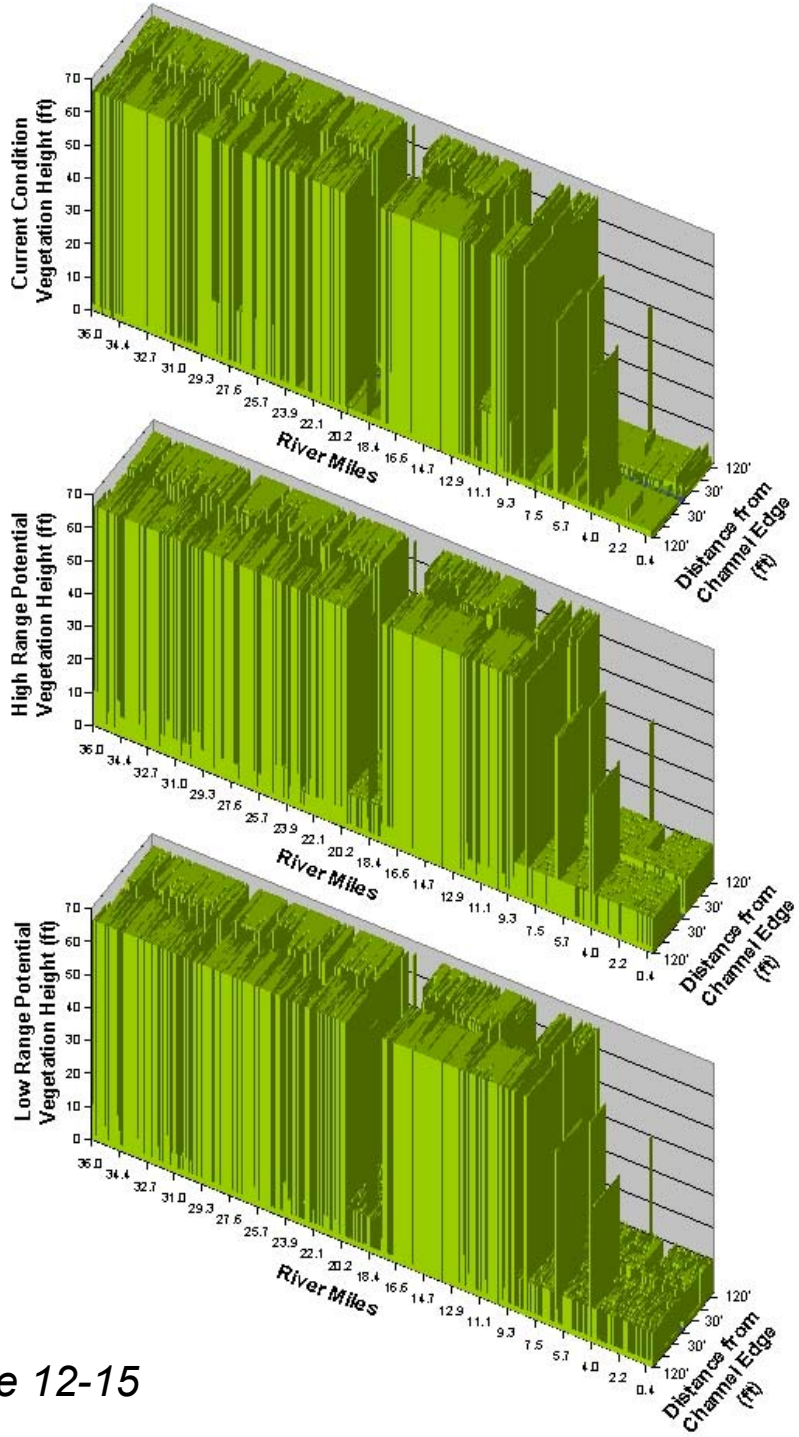
S.F. Sprague River



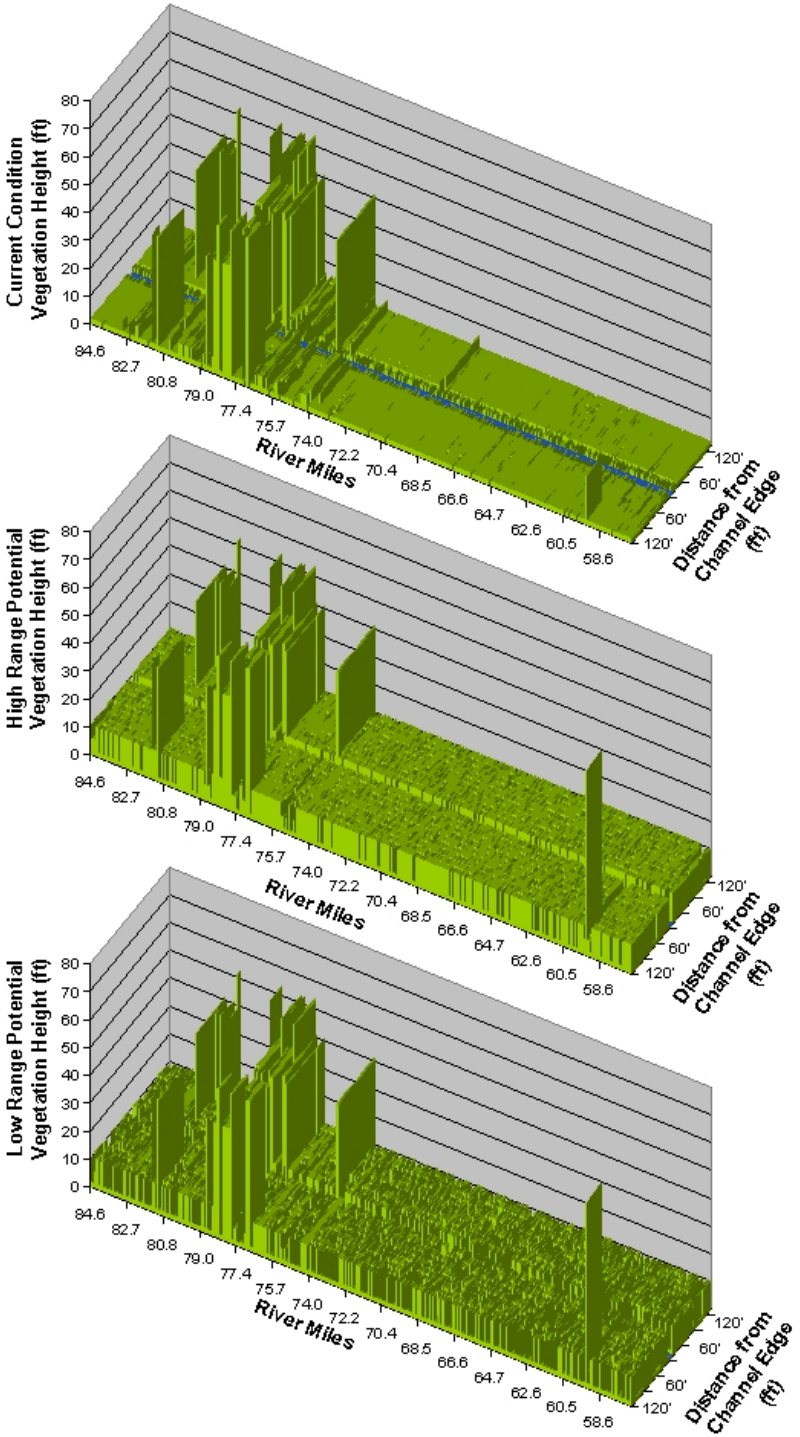
Sycan River - Upper



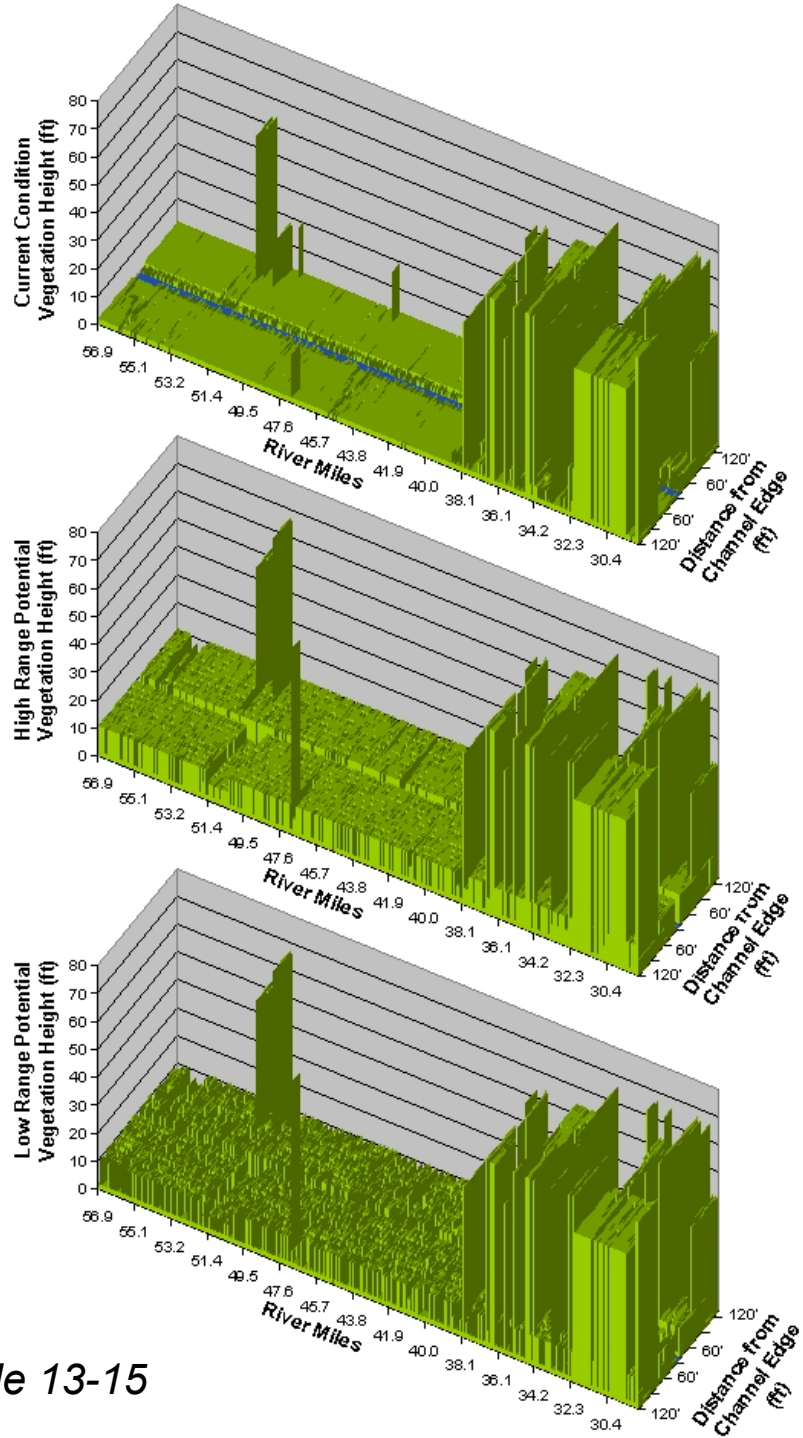
Sycan River - Lower



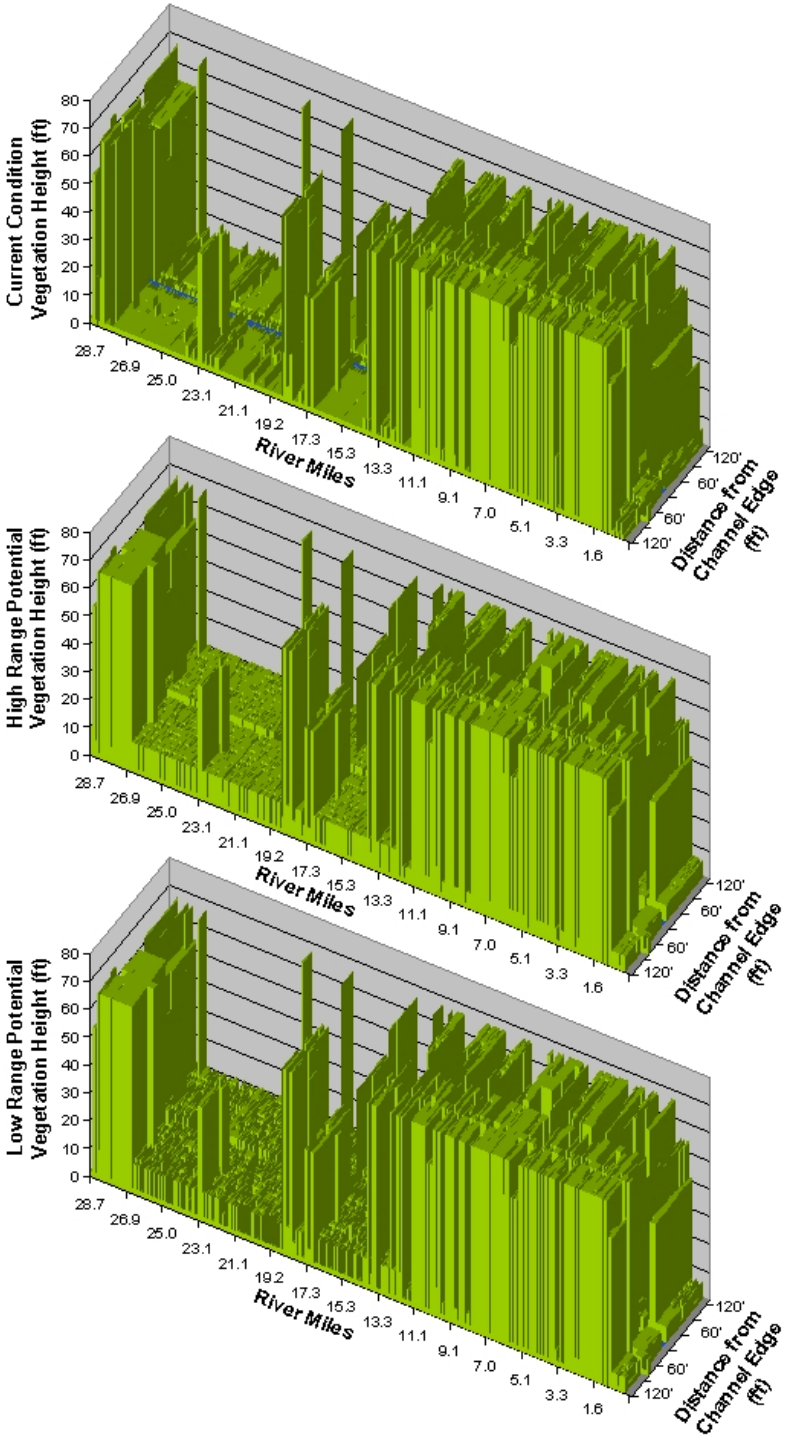
Sprague River - Upper



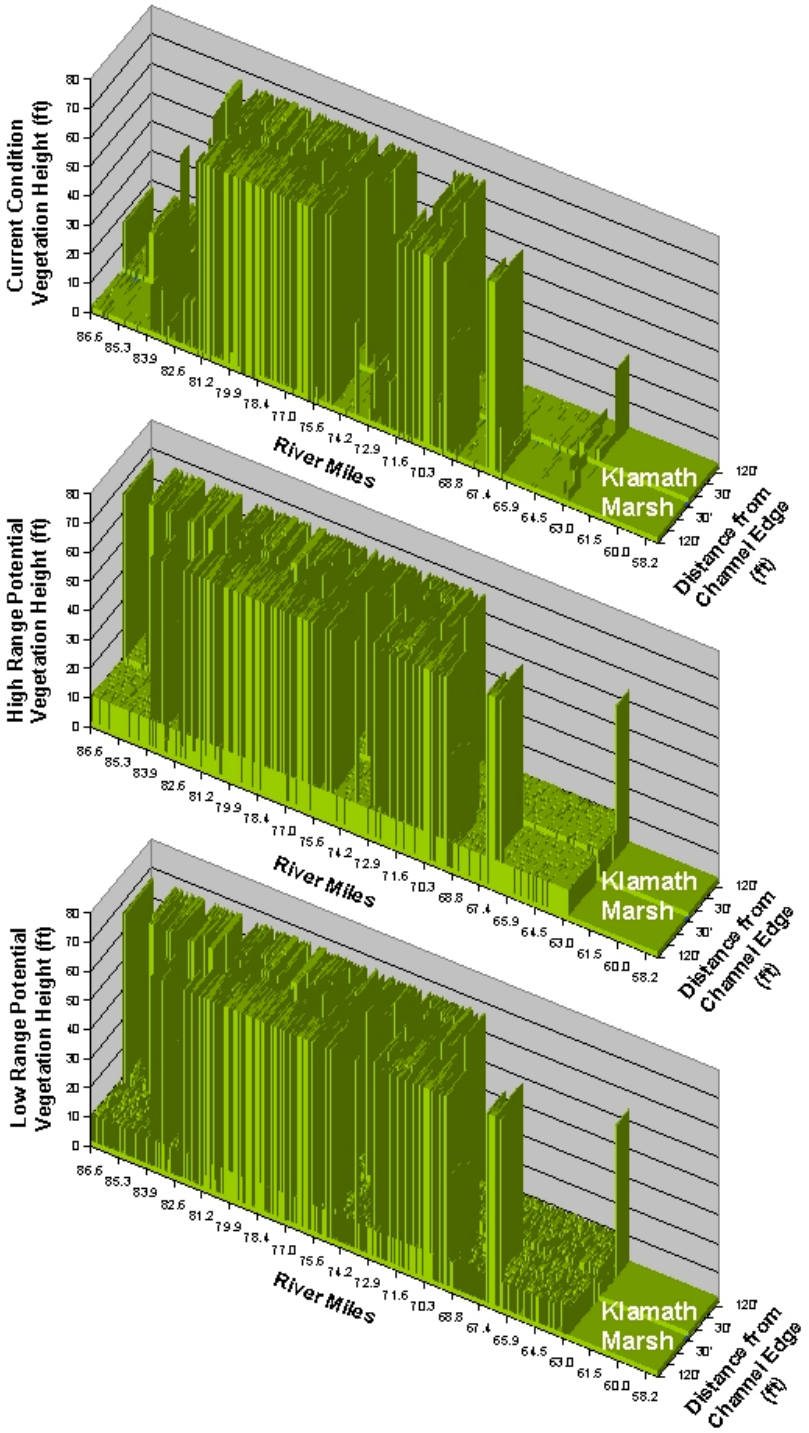
Sprague River - Middle



Sprague River - Lower



Williamson River - Upper



Williamson River - Lower