FINAL DRAFT REPORT
ENTIAT RIVER WATERSHED RIPARIAN AREAS PRIORITIZATION PROJECT
CHELAN COUNTY, WA

JUNE 25, 2007

FOR
ENTIAT WATERSHED PLANNING UNIT AND
CHELAN COUNTY CONSERVATION DISTRICT

GeoEngineers

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LIST OF ACRONYMS

CBIC	Columbia Basin Inter-Agency Committee
CCCD	Chelan County Conservation District
CWA	Clean Water Act
DEM	Digital Elevation Model
DIP	Detailed Implementation Plan
ERIA	Entiat River Inventory and Analysis
EPA	Environmental Protection Agency
EWPU	Entiat Watershed Planning Unit
FLIR	Forward Looking Infra-red
GIS	Geographic Information System
HCP	Habitat Conservation Plan
ID	Identification
ISEMP	Integrated Status and Effectiveness Monitoring Program
LiDAR	Light Detection and Ranging
LTA	Land Type Association
N/A	Not Assigned
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
PUD	Public Utility District
RM	River Mile
SNTEMP	Stream Network Temperature Model
TIR	Thermal Infra-red
TMDL	Total Maximum Daily Load
UCSRB	Upper Columbia Salmon Recovery Board
USFS	United States Forest Service
USFS-WNF	United States Forest Service-Wenatchee National Forest
USFWS	United State Fish and Wildlife Service
WDOE	Washington Department of Ecology
WDNR	Washington Department of Natural Resources
WRIA	Water Resource Inventory Area

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INTRODUCTION

Residents of the Entiat River valley have been working collaboratively with government entities, resource management agencies and other partners on collaborative, watershed management for over 13 years. In 2004 the Entiat Watershed Planning Unit (EWPU) successfully completed a comprehensive watershed assessment and planning effort addressing water resource, water quality, habitat, and instream flow management issues. The Entiat WRIA Management Plan (Management Plan), authored by the Chelan County Conservation District (CCCD 2004), summarizes assessment findings and provides watershed plan recommendations. Among the many issues addressed, the EWPU identified exceedences of water temperature standards as the primary water quality issue in the watershed.

In the Management Plan, the EWPU identified properly functioning riparian areas as critical to mitigating water temperature exceedences and providing other ecosystem functions like flood attenuation, streambank stabilization, as well nutrients and cover for salmonids and other aquatic and riparian species (CCCD 2004). The Management Plan included a synthesis of available data pertaining to water temperatures (e.g. CCCD 1998, USFS 1996), and summarized additional analyses completed as part of the watershed effort (e.g. Hendrick and Monahan 2003, Lillquist and Erickson 2002). The Management Plan recommended protection and restoration of riparian vegetation throughout the Entiat River watershed, and suggested general locations for riparian enhancements. The Management Plan did not, however, provide a comprehensive prioritization of riparian restoration and protection areas or specific locations for riparian projects in the watershed.

The Washington Department of Ecology (Ecology) subsequently funded the EWPU to develop a riparian protection and restoration plan for the Entiat River watershed. The primary purpose of the plan is to address water temperature exceedences. A secondary purpose has been to protect associated beneficial uses, including anadromous salmonid habitat, consistent with commitments made by the EWPU in the Management Plan and Detailed Implementation Plan (DIP, CCCD 2006). The CCCD, on behalf of the EWPU, retained GeoEngineers to assist the CCCD with a comprehensive riparian prioritization effort for the Entiat River watershed, to support the development of a Riparian Plan. GeoEngineers was requested to conduct a geospatial analysis of topographic shading and to assemble other geospatial data necessary to support the riparian area prioritization process. This report describes results of the topographic shading analyses and prioritization matrices for both riparian restoration and protection, based on the geospatial information compiled. The matrices and GIS database developed as part of this project have been provided to the CCCD and EWPU separately, to facilitate implementation of a riparian area protection and restoration program for the watershed.

The development and implementation of a riparian area protection and restoration plan is important for the Entiat River watershed to meet planning unit objectives defined in the Management Plan and DIP. Implementation of a Riparian Plan is also necessary for the Entiat River watershed to remain in compliance with the Clean Water Act (CWA). Ongoing riparian restoration efforts and action identified

in the Management Plan and DIP were formally recognized as an appropriate treatment of water temperature exceedences in the mainstem Entiat River (Ecology 2005). Accordingly, for temperature, the State assigned the lower Entiat River to Water Quality Assessment Category 4(b). This categorization identifies the water body as impaired by the pollutant, but does not require a Total Maximum Daily Load Allocation (TMDL) because there is an existing pollution control project. The U.S. Environmental Protection Agency (EPA) also formally supported implementation of the Management Plan and DIP in lieu of more traditional regulatory approaches used to address water temperature exceedences (EPA 2005). In order to maintain Ecology and EPA support, however, the EWPU must continue to develop and implement priority riparian projects to address water temperature exceedences. The analyses described in this report and the development and implementation of a riparian area protection and restoration plan will further the good-faith efforts of the EWPU and CCCD to address water temperature exceedences.

This report provides the results of work described in the study plan drafted by GeoEngineers, and submitted to the CCCD and EWPU (GeoEngineers 2006).

OBJECTIVES

The primary objective of this study was to assist the CCCD and EWPU with the development of a riparian restoration plan to help reduce water temperature standard exceedences in the watershed. Secondary objectives included the identification of land for protection of existing riparian vegetation, and identification of riparian enhancement projects that would support ongoing watershed and salmon recovery efforts in the Entiat River watershed (UCSRB 2006). This study utilized existing spatial information, taking into account unique local conditions (e.g. fire history), and data from ongoing watershed restoration and salmon recovery efforts of the EWPU and partners. GeoEngineers and the CCCD assembled a GIS database, including information on topographic shading, existing riparian vegetation, stream geomorphology, surface hydrology and groundwater data, locations of dikes and riprap, and other spatial information.

The database produced by this study is being shared with the CCCD and EWPU, to be used to develop and implement a riparian protection and restoration plan for the watershed. The database includes additional information not included in the draft report. Such information may be used to contact owners of land prioritized for riparian protection and restoration. This work was done to provide the EWPU with information needed to continue its ongoing program to address water temperature exceedences through implementation of protection and restoration of priority riparian areas as discussed in the Entiat WRIA 46 Management Plan (Management Plan, CCCD 2004) and the Detailed Implementation Plan (DIP, CCCD 2006).

This report supports the Management Plan, DIP, and SNTEMP (Hendrick and Monahan 2003) findings and recommendations that riparian areas be protected and restored throughout the Entiat River watershed. The EWPU recognizes, however, that it is not practical to protect and restore riparian lands in an area as large as the Entiat River watershed. This report, therefore, was completed to guide resources to locations determined to maximize shade benefits to stream temperature, and other aquatic resource values.

SCOPE OF SERVICES

GeoEngineers was retained by the CCCD to provide geospatial analysis services in support of development of a Riparian Plan for the Entiat River watershed. The riparian geospatial analysis was done consistent with the approach described in the study plan developed by GeoEngineers, submitted to the EWPU and CCCD in December of 2006 (GeoEngineers 2006), and summarized at the April 4, 2007 planning unit meeting. The following approach outline was excerpted from the study plan:

1. Characterize topographic shading;
2. Compile, analyze and augment existing datasets of areas with riparian vegetation and other key features;
3. Sort areas for riparian protection and restoration; and
4. Identify prioritized areas for protection and restoration.

The following provides more detailed descriptions of the analytical methods, results of the geospatial analyses, discussion and recommendations for use of the information contained in the report, consistent with the study plan.

APPROACH

STUDY AREA

This study focused on that portion of the mainstem Entiat River that was previously identified as exceeding Washington State water temperature standards. This river segment is located between Entiat Falls at river mile (RM) 33.8 and the confluence of the Entiat River with Lake Entiat on the Columbia River (RM 0), in the Entiat River Watershed (Figure 1). The Entiat River Water Resource Inventory Area (WRIA 46) is located in Chelan County, in north-central Washington State. The river flows approximately 43 miles from an elevation of over 9000 feet at the summit of Mt. Fernow to an elevation of approximately 713 feet at its confluence with the Columbia River near the town of Entiat (CCCD 2004). The Entiat River flows into the Columbia River at RM 482.7 (CBIC 1964). The WRIA encompasses an area of approximately 305,641 acres, and varies from 5 to 15 miles in width. The North Fork Entiat River and the Mad River are the two main tributaries joining the Entiat River at river miles (RMs) 33.0 and 10.2, respectively. No tributaries were included in this study, because these waters were not identified as exceeding water quality standards.

TOPOGRAPHIC SHADE ANALYSIS

The Entiat River watershed is generally very steep and dissected. This narrow watershed was created concurrently with the formation of the Cascade Mountains as the area was being uplifted. During this geologic process, the river and streams were highly erosive, deeply incising the middle and lower portions of the watershed (CCCD 2004). Alpine glaciation significantly affected the upper portion of the watershed, creating U-shaped valleys and a wide, meandering floodplain between the terminal glacial moraine (approximately RM 16.2) and the Forest Service boundary (approximately RM 26.2). The study plan anticipated that topographic shading would be more prevalent in the lower Entiat River watershed than in the glaciated portion of the watershed (GeoEngineers 2006).

In temperate regions, the amount of energy transferred from the sun to water can be influenced by both season and time of day (Wetzel 1983). To account for seasonal variation GeoEngineers proposed in the study plan to focus effort on the months of July, August, and September when water temperatures are most extreme. To account for diel variability, GeoEngineers proposed to focus analyses on those times of day when solar radiation is closest to perpendicular to the water surface, when it most directly affects water temperatures. Thus, three days were selected from each of the months of July, August, and September. For each day, topographic shading was evaluated during three time intervals: 10:00 AM, 12:00 PM, and 14:00 PM.

The *hillshade* function (ESRI; Redlands, CA) was used to evaluate topographic shade influences on direct solar radiation of the Entiat River and adjacent riparian areas. A trajectory was assigned to solar radiation to enable the *hillshade* function. The trajectory of direct solar radiation for each time interval was

determined using the solar position calculator provided by NOAA (2007). The NOAA solar calculator model required input values of latitude (degrees, minutes, seconds); longitude (degrees, minutes, seconds); date (month, day, year) and time (hours, minutes, seconds). Input values were used to represent the center of the study area at RM 17. The solar calculator produced output values of equation of time (minutes), solar declination (degrees), solar azimuth (degrees clockwise from north), solar elevation (degrees from the horizon) and cosine of the zenith angle. These outputs were used as input values to run the *hillshade* function in ArcGIS, applied to a Digital Elevation Model (DEM). Sarah Walker (personal communication 2006) provided GeoEngineers with an existing 30m digital elevation model (DEM) of the Entiat River watershed, refined to a 10 meter grid to run the hillshade analysis.

The *hillshade* function within the Spatial Analyst extension of the ArcMap program was used to create HILLSHADE grids. With the *shadows option* turned on, HILLSHADE grids were produced for each of the nine day and time intervals by applying the *hillshade* function to the DEM. The *shadow option* was used to assign all areas that were topographically shaded with a unique spatial value (see orange shading, Figure 3). Each hillshade analysis was run with a specified sun azimuth and altitude that corresponded to the days and times chosen for analysis. The latitude and longitude for the mid-point of the Entiat River at RM 17 was used to determine azimuth and altitude for all nine HILLSHADE grids.

To verify results, the *line of sight* function within ESRI's 3D Analyst ™ extension was run from a point within a shadow along the same azimuth used for creation of HILLSHADE grids. HILLSHADE grids would be deemed accurate if the line produced with the *line of sight function* terminated at the shadow edge. Results were also verified using existing air photographs, digital orthophoto quadrangles, and were field verified during the May 29, 2007 site visit. Once topographic shade analyses were completed and verified, GeoEngineers used the data as part of the riparian prioritization geospatial analysis.

PARCELS

This study used parcel information as the base data layer to identify the locations of potential, priority riparian protection and restoration projects. Previous riparian assessments of the Entiat River watershed have not provided the type of site-specific information needed to contact landowners to explore development of riparian restoration projects (Walker 2007, personal communication). Parcel information maintained by Chelan County was used as the primary land base information layer, to enable the EWPU and implementing partners to follow through with riparian outreach, project development and implementation.

The Chelan County parcel layer represents land ownership boundaries for all of Chelan County. Many of the parcels in the Chelan County layer were, therefore, well outside the Entiat River watershed and the boundaries of this study. To eliminate parcels that were outside the study area, GeoEngineers selected parcels immediately adjacent to the Entiat River between RM 34.0 and RM 0, using the *select by location* function in ESRI-ArcMap ™.

Lands managed by the Forest Service, adjacent to the Entiat River between RM 26.2 and 34.0 were found to all have the same parcel identification number in the Chelan County parcel layer. In order to better understand spatial differences in riparian function within these public lands, this large area was sub-divided according to Township, Range and Section units between RM 26.2 and 34.0. This resulted in the large area identified as the USFS-managed lands being divided into 11 "parcels" of approximately one square mile in area.

Following this first selection process, a few private parcels between RM 0 and 26.2 were observed to have a narrow band of land immediately adjacent the river. In order to be sure that riparian areas that

were not immediately adjacent the river were not arbitrarily excluded from the prioritization process, GeoEngineers recommended that a secondary set of riparian parcels be identified and included in the study area. Secondary parcels were identified as having parcel boundaries within 25 meters (approximately 82 feet) from the center point of the river (thalweg). A 25 m criterion was used because the distance between the Entiat River centerpoint (represented by the GIS stream layer) and streambank is approximately 15 meters (approximately 50 feet) and the primary literature indicated that shade of forested streams by riparian vegetation is primarily supported by vegetation within 8 meters (approximately 26 feet) of the high water mark (Fischer and Fischernich 2000). We used the 25 meter criterion to reflect the combined distance of 15 meters (half the wetted width) plus the 8 meter shade zone, with an added 2 meters to account for potential error associated with variability in stream width, a meandering thalweg, or distance between the wetted edge and ordinary high water mark.

The combination of primary and secondary study area parcels were saved to a shapefile for use in the geospatial analysis and prioritization process (see Figure 2). Each parcel was labeled with a unique identification (ID) number between one (1) and three hundred ninety six (396) and saved to a master spreadsheet file developed to prioritize parcels based on geospatial attributes described below.

GEOSPATIAL ANALYSIS AND PRIORITIZATION

GeoEngineers worked with the CCCD to develop a GIS database of existing spatial-based information, supplemented with new information (e.g. topographic shading) pertinent to the riparian protection and restoration prioritization process. Available databases and spatial information included analyses of: existing riparian vegetation (e.g. Lillquist and Erickson 2002), soils and geologic features (e.g. WDNR 2002), surface and ground water interaction (e.g. CCCD 2003), color air photography and thermal infra-red (TIR) imagery (Watershed Sciences 2001), saturated aquifer thickness (Dixon 2003), and stream morphology (e.g. CCCD 1998).

Numeric values were assigned to each attribute using a normalized range from 0 – 1. A value of zero (0) was assigned to attributes of a data layer that were identified as being highest in priority for protection or restoration of riparian vegetation. A value of one (1) was assigned to attributes of a data layer identified as being lowest priority. Intermediate values (e.g. 0.25, 0.5, 0.75) were assigned to attributes that were intermediate in priority, for those data layers providing this added level of detail. The following geospatial datasets were considered as part of the analyses:

1. topographic shading,
2. existing riparian vegetation,
3. previous riparian planting recommendations,
4. bedrock presence,
5. aspect/orientation of the riverbanks and the potential shade planting could provide,
6. gaining reaches,
7. areas of potential upwelling,
8. channel morphology,
9. the presence primary pool habitat,
10. known steelhead spawning locations,
11. known spring Chinook spawning locations, and

12. known summer Chinook spawning locations.

Results of the geospatial analyses were assembled in a spreadsheet file that included parcel number and the normalized numeric rating of each geospatial attribute for each parcel. A simple summation of numeric values across geospatial attributes for each parcel was used to produce a total value. The lowest total numeric (prioritization summation) value represented the parcel for which the greatest number of "high" priority criteria was identified. Thus, parcels with a total numeric value closest to zero (0) are the highest priority.

Topographic Shading

Protection and restoration of riparian vegetation is a priority throughout the Entiat River watershed (CCCD 2004, 2006; Hendrick and Monahan 2003). The presence of shade on the Entiat River resulting from topography, however, was evaluated in order to identify areas where riparian planting may not be needed to mitigate high water temperatures. Areas with sufficient topographic shade may not be as high a priority for protection or restoration of riparian vegetation because topographic shade is already serving to mitigate water temperature exceedences.

The topographic shade analysis described earlier in this report successfully produced nine HILLSHADE grids. The grids were successfully verified using the *line of sight* function within ESRI's 3D Analyst ™ extension, and converted to shapefiles for riparian prioritization geospatial analyses. Hillshade grids appeared to conform to visible areas of shadow on air photographs, and with observations made during the May 29, 2007 site visit. Areas with significant topographic shading were assigned a value of one (1) indicating a low priority for riparian vegetation protection or restoration. Areas with very little or no topographic shading were assigned a value of zero (0) indicating that topographic shading is not anticipated to help mitigate water temperature exceedences, so the area remains a priority for protection and restoration of riparian vegetation.

The *select by location* function was used to find those parcels that intersected shaded areas. A visual assessment was used, identifying each parcel with a topographic shade prioritization value. Results were recorded as a unique shapefile (see Figure 3), and saved to the master spreadsheet.

Existing Riparian Vegetation

Previous assessments of existing riparian vegetation provided valuable information about what parts of the study area might be priority sites to protect or restore riparian vegetation. Lillquist and Erickson (2002) completed an assessment of existing riparian vegetation, as part of a land and water use analysis for the EWPU, and an evaluation of historical changes in landuses in the lower Entiat River (Erickson 2003). The study by Lillquist and Erickson (2002) considered 1992 USFS aerial photographs, 1998 black and white orthophoto quadrangles, Forward Looking Infra Red (FLIR) true-color imagery, and manual mapping of aerial photograph stereo pairs between RM 0 and RM 26.2. The analysis by Erickson (2003) supplemented these more contemporary photos with older air photographs (e.g. 1945).

Riparian analyses done by Lillquist and Erickson (2002) used an Arcview ™ (ESRI; Redland, CA) GIS framework. Results included original data layers depicting riparian vegetation by both riparian community type (e.g. no riparian vegetation, riparian forest, riparian meadow) and by relative height (e.g. small ~ 1'-25'; medium~26'-70'; large~71'-100+').

The data contained in the analyses by Lillquist and Erickson (2002) were used two different ways in this report, depending on whether the information was used to evaluate riparian restoration or riparian protection efforts.

Riparian Restoration Areas

Areas previously identified by Lillquist and Erickson (2002) as having no riparian vegetation were considered priority areas for riparian restoration. These areas were assigned a value of zero (0) indicating that they would be priority locations for riparian restoration. Riparian areas identified as having small (1'-25') relative height of riparian vegetation were assigned a value of 0.25 indicating that these areas would be relatively high priorities for riparian restoration. Riparian areas identified as having medium (26'-70') relative height of riparian vegetation were assigned a value of 0.5 indicating that these areas are relatively moderate priorities for riparian restoration. Riparian areas identified as having large (71'-100+') relative height of riparian vegetation were assigned a value of one (1) indicating that these areas are relatively low priorities for riparian restoration.

The *select by location* function was used to find those parcels that intersected riparian restoration prioritization values adapted from Lillquist and Erickson (2002). All parcels upstream from RM 26.2 (approximate forest boundary) were not assessed by Lillquist and Erickson (2002). These parcels were not assigned a numerical ranking, but were identified with the descriptor "N/A" indicating values were "not assigned" to these areas by Lillquist and Erickson (2002). Results were recorded as a unique shapefile (see Figure 4), and saved to the master spreadsheet.

Riparian Protection Areas

Areas previously identified by Lillquist and Erickson (2002) as having riparian vegetation were considered priority areas for riparian protection. Areas identified as having large (71'-100+') relative height of riparian vegetation were assigned a value of zero (0) indicating that are high priority areas for riparian protection. Riparian areas identified as having medium (26'-70') relative height of riparian vegetation were assigned a value of 0.25 indicating that these areas are relatively high priority for riparian protection. Riparian areas identified as having small (1'-25') relative height of riparian vegetation were assigned a value of 0.5 indicating that these areas are relatively moderate priorities for riparian protection. Riparian areas identified as "n/a" (no riparian vegetation) were assigned a value of one (1) indicating that these areas are relatively low priority for riparian protection.

The *select by location* function was used to find those parcels that intersected riparian protection prioritization values adapted from Lillquist and Erickson (2002). All parcels upstream from RM 26.2 (approximate forest boundary) were not assessed by Lillquist and Erickson (2002). These parcels were not assigned a numerical ranking, but were identified with the descriptor "N/A". Results were recorded as a unique shapefile (see Figure 4), and saved to the master spreadsheet.

Previous Planting Recommendations

Previous assessments of existing riparian vegetation provided valuable information about what parts of the study area might be priority sites to restore riparian vegetation. The Natural Resource Conservation Service (NRCS) Stream Team assessed the Entiat River watershed in 1995. Part of the assessment included identification of stream habitat restoration projects and recommended areas for riparian plantings. The CCCD (1998) documented this work in a report entitled the Entiat River Inventory and Analysis (ERIA).

As part of the ERIA, sites proposed for riparian restoration were document in an Arcview ™ (ESRI; Redland, CA) GIS database by the NRCS (CCCD 1998; veg-cov_sites2). These sites were readily

incorporated into this riparian prioritization geospatial analysis. Parcel polygons were cross referenced with point data provided by the CCCD via the NRCS riparian planting recommendation data layer. Parcels that intersected the riparian planting point data were identified with a numeric value of zero (0), indicating that these parcels were previously identified as candidates for riparian restoration. Parcels that did not intersect riparian planting point data were identified with a numeric value of one (1), indicating that these parcels were not previously identified as candidates for riparian restoration.

This approach was used up to RM 20.4 where the NRCS Stream Team discontinued its survey. All parcels above RM 20.4 that were not assessed by the NRCS Steam Team, were not included in the ERIA or Arcview ™ (ESRI; Redland, CA) GIS database completed by the NRCS), and were assigned a value of "N/A' for the purpose of this geospatial analysis.

The *select by location* function was used to find those parcels that intersected prioritization values adapted from the NRCS point data provided by the CCCD (1998). Results were recorded as a unique shapefile (see Figure 5), and saved to the master spreadsheet.

Potential Shading Based on Aspect

Solar position can be an important factor when considering the potential benefits of riparian vegetation (see section on topographic shading). The altitude and azimuth of the sun depend on perspective (location on the earth's surface) and changes as a consequence of the daily rotation of the earth about its polar axis, and the annual movement of the earth with respect to the sun. In the northern hemisphere, north of latitude 23^{o} 27', the position of the sun is generally oriented to the south, resulting in shadows being cast generally northward of the shading object. This principle has been used for navigation, to tell time, for gardening, and a variety of other purposes.

The orientation of the river and associated streambank with respect to the position of the sun is, therefore, an important consideration in determining the potential contribution of riparian vegetation to shading. In the northern hemisphere, riparian vegetation located along the south bank of a river flowing in an east-west direction may shade the river throughout the day, while vegetation on the north bank of the same river reach would not shade the river at all.

Recognizing this phenomenon, the CCCD recommended that GeoEngineers characterize the potential benefit of riparian area protection and restoration on any particular parcel based on the orientation, or aspect, of the streambank with respect to the river and position of the sun. A simple compass bearing was used to assign parcels a value based on orientation. Parcels located on the south to southwest bank of a section of river were assigned a value of zero (0), indicating the expectation that vegetation would provide a comparatively high shade value on the river segment. Parcels oriented on the west or southeast banks of a river segment were assigned a value of 0.25 indicating that vegetation would be expected to provide a relatively high shade value on the river segment. Parcels oriented on the east bank of a river segment were assigned a value of 0.5 indicating that vegetation would be expected to provide a moderate shade value on the river segment. Parcels located on the northwest, north, and northeast banks of a river segment were assigned a value of one (1) indicating that vegetation would not be expected to provide a shade value on the river segment. Assumptions about the relative effects of aspect on stream bank and river shading were checked, and confirmed, using existing air photograph records.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values described above. Results were recorded as a unique shapefile (see Figure 6), and saved to the master spreadsheet.

Existing Pool Habitat

The Entiat River has limited pool habitat. Comparisons of historic and present pool habitat area show significant reductions in pool habitat area throughout the 34 mile study reach (USFS 1996). Pool quality and frequency in the lower Entiat River has been reduced by as much as 85% since the 1930s (USFS 1996). Analysis of geomorphic conditions confirmed that pool frequency is far below its geomorphic equilibrium condition in the lower 20 river miles (CCCD 2004, 1998). Protection and restoration of riparian areas adjacent existing primary pools should be a priority in the Entiat River watershed. Properly functioning riparian areas serve to maintain an equilibrium in geomorphic condition, as well as providing shade and nutrients to these areas commonly used as resting and rearing habitat by salmonids.

The ERIA (CCCD 1998) included a geomorphic assessment of the Entiat River up to RM 20.4. Pool habitat surveyed by the NRCS was identified in an Arcview ™ (ESRI; Redland, CA) GIS database provided by the CCCD (1998). Pool habitat was classified into three categories based on depth. The NRCS defined class 1 pools as having a depth greater than or equal to 1 meter with a surface area of at least 20 square meters at low flow (Hankin and Reeves 1988). The NRCS also identified class 2 pools as those meeting minimum surface area with depths between 0.1 and 1 meter, and class 3 pools as those meeting minimum surface area and having depths less that 0.5 meters. For riparian protection and restoration prioritization purposes, class 1 pools were assigned a value of zero (0), indicating that protection and restoration of riparian vegetation should be a high priority on parcels adjacent existing class 1 primary pools. Class 2 pools were assigned a value of 0.25, indicating that protection and restoration of riparian vegetation should be a relatively high priority on parcels adjacent existing class 2 primary pools. Class 3 pools were assigned a value of 0.5, indicating that protection and restoration of riparian vegetation should be a moderate priority on parcels adjacent existing class 3 primary pools. Areas surveyed but not found to have primary pools were assigned a value of one (1), indicating that protection and restoration of riparian vegetation should be a relatively low priority on parcels adjacent areas without primary pools. All parcels upstream from river mile 20.4 were not surveyed by the NRCS, and were, therefore, not assigned a value (N/A) for this watershed attribute.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the point data provided in the CCCD (1998). Results were recorded as a unique shapefile (see Figure 7), and saved to the master spreadsheet.

Gaining Reaches

Properly functioning riparian areas interact with rivers and streams and other surface water bodies to provide rich habitat for terrestrial and aquatic species. Riparian areas can provide unique niche habitat, including cool microclimates that offer relief to wildlife species during the hot, dry summer months and refuge during cold, snowy winters (Beschta et al. 1987). Rivers and streams also provide thermal refuge during the hot, dry months and cold winters in areas where groundwater recharges the surface water body. These areas can be springs, seeps, upwelling areas, or gaining river reaches. When associated with a river or stream, these areas often provide cool-water thermal refugia to salmonids during hot, dry low flow periods. A mature riparian that shades the cool-water source is critical to maintaining this thermal refugia habitat. Gaining reaches of streams and rivers are also important because not only do they serve as thermal refugia, but they contribute 90% of in surface water flow during the low-flow period in water bodies like the Entiat River (Sinclair and Pitz 1999).

The EWPU conducted a synoptic flow analysis of the Entiat River watershed in September 2002 as part of the watershed assessment and planning process (CCCD 2003). Results indicated the presence of both gaining and losing reaches of the Entiat River between RM 34 and the confluence of the Entiat and

Columbia Rivers. GeoEngineers adapted the tabular information in the synoptic flow analysis (gain-loss study) for use in this geospatial analysis. Reaches identified as gaining more than 20 cfs per mile were assigned a value of zero (0), indicating that these areas should be a top priority for protection and restoration of riparian vegetation. Reaches identified as gaining between 10 and 20 cfs per mile were assigned a value of 0.25, indicating that these areas should be a high priority for protection and restoration of riparian vegetation. Reaches identified as gaining between 0 and 10 cfs per mile were assigned a value of 0.5, indicating that these areas should be a moderate priority for protection and restoration of riparian vegetation. Losing reaches were assigned a value of one (1), indicating that these reaches should be a lower priority for protection and restoration of riparian vegetation.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration prioritization values adapted from the gain-loss study results provided by the CCCD (2003). Results were recorded as a unique shapefile (see Figure 8), and saved to the master spreadsheet.

Potential Upwelling Areas Based on Land Type

As described in the previous gaining reach section, upwelling areas can provide valuable thermal refugia to aquatic species, and interact with proper functioning riparian vegetation to provide rich habitat for both aquatic and terrestrial species.

The USFS-Wenatchee National Forest conducted an analysis of land type associations (LTA) to assist with management of public lands. As part of the LTA analysis, the USFS produced a GIS database of potential upwelling areas in the Entiat River watershed (source CCCD 2007). GeoEngineers adapted the GIS database, assigning prioritization values based on likelihood of there being an upwelling area in association with the river. Areas identified by the USFS as having a "very high" likelihood of being an upwelling area were assigned a prioritization value of zero (0), indicating these areas as the highest priority for riparian protection and restoration. Areas identified by the USFS as having a "high" likelihood of being an upwelling area were assigned a prioritization value of 0.25, indicating these areas as a priority for riparian protection and restoration. Areas identified by the USFS as having a "moderate" likelihood of being an upwelling area were assigned a prioritization value of 0.5, indicating these areas as a moderate priority for riparian protection and restoration. Areas identified by the USFS as having a "low" likelihood of being an upwelling area were assigned a prioritization value of 0.75, indicating these areas as a relatively low priority for riparian protection and restoration. Areas identified by the USFS as having a "very low" likelihood of being an upwelling area were assigned a prioritization value of one (1), indicating these areas as the lowest priority for riparian protection and restoration. The USFS did not assess probable upwelling areas throughout the study area. Areas not identified by the USFS-WNF were, therefore, not assigned a value (N/A) for this watershed attribute.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the potential upwelling area study results provided by the USFS. Results were recorded as a unique shapefile, and saved to the master spreadsheet. This criterion was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee members on the draft report.

Bedrock

Bedrock outcrop locations are considered in this analysis because planting in areas of bedrock may not produce satisfactory results, assuming there is poor soil development and a lower likelihood that deep-rooting, mature riparian forest would develop. The following four spatial data sources were identified as providing information about the likely locations of bedrock outcrops.

Dixon (2003)

An analysis of alluvial aquifer thickness was completed as part of the Entiat River watershed assessment and planning process (Dixon 2003 in CCCD 2004). The aquifer thickness analysis used polygons in an Arcview ™ (ESRI; Redland, CA) GIS database to represent areas of varying depths to bedrock. The database revealed areas of bedrock outcrops and pinch-points along the Entiat River.

GeoEngineers adapted the aquifer thickness GIS database developed by Dixon (2003), by differentiating between areas identified as having bedrock present at the ground surface, and areas noted as having alluvial aquifers present, indicating bedrock below the ground surface. Areas identified by Dixon (2003) as having alluvial aquifer (i.e. bedrock below the surface) were assigned a prioritization value of zero (0), indicating that these areas should be priority areas for protection and restoration of riparian vegetation. Areas identified by Dixon (2003) as having bedrock present were assigned a value of one (1), indicating that these areas should be a low priority for protection and restoration of riparian vegetation.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the analysis by Dixon (2003). Results were recorded as a unique shapefile (see Figure 9), and saved to the master spreadsheet.

Natural Resource Conservation Service (2001)

In 2001 the US Department of Agriculture - Natural Resource Conservation Service (NRCS) released a GIS database of bedrock location as part of a soils analysis using Arc/Info ™ (ESRI; Redland, CA). Bedrock information (SSURGO_bdr) was used in this geospatial analysis to identify locations where it may be difficult to establish mature, riparian vegetation due to poor soils quality or soil depth for roots to establish. Areas identified by the NRCS (2001) soils other than bedrock were assigned a prioritization value of zero (0), indicating that these areas should be priority areas for protection and restoration of riparian vegetation. Areas identified by the NRCS (2001) as having bedrock present were assigned a value of one (1), indicating that these areas should be a low priority for protection and restoration of riparian vegetation. The NRCS did not survey bedrock soil types throughout the study area. Areas not surveyed by the NRCS were, therefore, not assigned a value (N/A) for this watershed attribute.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the analysis by the NRCS (2001). Results were recorded as a unique shapefile, and saved to the master spreadsheet. This criterion was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee members on the draft report.

USFS-Wenatchee National Forest

The USFS-Wenatchee National Forest released the results of an analysis of LTA to assist with management of public lands. As part of the LTA analysis, the USFS produced a GIS database of potential locations of bedrock in the Entiat River watershed (source CCCD 2007). GeoEngineers adapted the GIS database, assigning prioritization values based on likely bedrock locations. Areas identified by the USFS as bedrock being present were assigned a prioritization value of one (1), indicating these areas as low priority for riparian protection and restoration. Areas identified by the USFS as not having bedrock present were assigned a prioritization value of zero (0), indicating these areas as being a priority area for riparian protection and restoration. The USFS did not assess probable upwelling bedrock areas throughout the study area. Areas not identified by the USFS-WNF were, therefore, not assigned a value (N/A) for this watershed attribute.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the analysis by the USFS-WNF. Results were recorded as a unique

shapefile, and saved to the master spreadsheet. This criterion was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee members on the draft report.

Washington Department of Natural Resources (WDNR) – Surficial Geology

The Washington Department of Natural Resources (WDNR) analyzed surficial geology in Washington State, including the Entiat River watershed (WDNR 2002). The analyses included a GIS database of potential locations of bedrock in the Entiat River watershed. GeoEngineers adapted the GIS database, assigning prioritization values based on likely bedrock locations. Areas identified by the WDRN as bedrock being present were assigned a prioritization value of one (1), indicating these areas as low priority for riparian protection and restoration. Areas identified by the USFS as not having bedrock present were assigned a prioritization value of zero (0), indicating these areas as being a priority area for riparian protection and restoration.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the analysis by the WDNR (2002). Results were recorded as a unique shapefile (see Figure 10), and saved to the master spreadsheet.

Geomorphic Stream Type

The ERIA conducted by the NRCS Stream Team and documented by the CCCD (1998) included a fluvial geomorphic assessment of the Entiat River up to RM 20.4. The CCCD (1998) produced as GIS database indicating the locations of geomorphic reaches of the Entiat River, based on a classification system developed by Rosgen (1994). GeoEngineers and the CCCD considered using the Rosgen-based geomorphic classification system to help identify stream segments that to be prioritized for protection and restoration of riparian vegetation. For example, stream segments classified as F-type channels using the Rosgen system are areas that have a high width to depth ratio, and typically represent riffle or shall-glide habitats. In the Entiat River watershed, F-type channels have been found in areas that have been channelized (CCCD 1998). In contrast, river segments identified as C-type channels using the Rosgen system were often associated with low-gradient, meandering stream segments that have not been channelized (CCCD 1998). GeoEngineers and the CCCD considered using Rosgen channel type as a surrogate for indications of natural and altered channel types.

GeoEngineers adapted the channel-type database produced by the NRCS in an effort to reflect riparian protection and restoration priorities based on the assumption that it would reflect altered versus unaltered channel types. When the *select by location* function was used to find those parcels that intersected values adapted from the geomorphic data set produced by the NRCS, and compared with layers in the geospatial analysis, results suggested that channel-type was not an appropriate surrogate for altered versus unaltered channel types. A unique shapefile data layer was produced, and will be made available to the CCCD and EWPU, but was not used for the initial or final prioritization processes.

Steelhead Spawning Habitat

Anadromous salmonid habitat is a priority designated use of water protected by the Clean Water Act, and Washington State water quality laws and rules (see Chapter 90.48 RCW). Steelhead trout (*Oncorhynchus mykiss*) in the Entiat River watershed are protected as an endangered species under the US Endangered Species Act of 1973. Critical habitat for Upper Columbia River steelhead (including steelhead in the Entiat River) was designated on September 2, 2005 (Federal Register 2005). Priority should be given to protection and restoration of threatened and endangered species habitat, including riparian areas associated with steelhead spawning areas in the Entiat River watershed.

Steelhead spawning ground surveys were recently initiated by the US Fish and Wildlife Service (USFWS), between RM 0 and RM 27.5. During spawning ground surveys in 2005 and 2006, USFWS field crews identified the location of steelhead redds using a geographic positioning system (GPS) and assembled the information in an unpublished reports (Nelle 2005). GeoEngineers adapted the point data representing steelhead spawning (redd) locations as part of this geospatial analysis. Points that the USFWS identified as steelhead redds were assigned a prioritization value of zero (0), indicating that these locations should be a high priority for protection and restoration of riparian habitat associated with steelhead spawning habitat. Areas between RM 0 and RM 27.5 that did not have steelhead redds were assigned a prioritization value of one (1), indicating that these locations should not be a priority for protection and restoration of riparian habitat associated with steelhead spawning habitat.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the surveys by the USFWS (Nelle 2005). Results were recorded as a unique shapefile (see Figure 11), and saved to the master spreadsheet.

Spring Chinook Spawning Habitat

Anadromous salmonid habitat is a priority designated use of water protected by the Clean Water Act, and Washington State water quality laws and rules (see Chapter 90.48 RCW). Spring Chinook (*Oncorhynchus tshawytscha*) in the Entiat River watershed are protected as an endangered species, under the US Endangered Species Act of 1973. Critical habitat for Upper Columbia River Spring Chinook (including spring Chinook in the Entiat River) was designated on September 2, 2005 (Federal Register 2005). Priority should be given to protection and restoration of threatened and endangered species habitat, including riparian areas associated with spring Chinook spawning habitat in the Entiat River watershed.

The CCCD developed a GIS dataset using reports published by the USFWS (e.g. Hamstreet 2007, 2006) describing reaches of the Entiat River where spring Chinook spawning is most concentrated. GeoEngineers adapted the spatial data representing spring Chinook spawning (redd) areas as part of this geospatial analysis. Reaches identified as having concentrated spring Chinook redds were assigned a prioritization value of zero (0), indicating that these locations should be a high priority for protection and restoration of riparian habitat associated with spring Chinook spawning habitat. Reaches between RM 0 and 34 that were not identified as spring Chinook spawning reaches were assigned a prioritization value of one (1), indicating that these locations should not be a priority for protection and restoration of riparian habitat associated with spring Chinook spawning habitat.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the surveys by the USFWS (e.g. Hamstreet 2007, 2006). Results were recorded as a unique shapefile (see Figure 12), and saved to the master spreadsheet.

Summer Chinook Spawning Habitat

Anadromous salmonid habitat is a priority designated use of water protected by the Clean Water Act, and Washington State water quality laws and rules (see Chapter 90.48 RCW). Priority should be given to protection and restoration of salmonid habitat in the Entiat River watershed.

The CCCD developed a GIS dataset using reports published by the USFWS (e.g. Hamstreet 2007, 2006) describing reaches of the Entiat River where summer Chinook spawning is most concentrated. GeoEngineers adapted the spatial data representing summer Chinook spawning (redd) areas as part of this geospatial analysis. Reaches identified as having concentrated summer Chinook redds were assigned a

prioritization value of zero (0), indicating that these locations should be a high priority for protection and restoration of riparian habitat associated with summer Chinook spawning habitat. Reaches between RM 0 and 34 that were not identified as summer Chinook spawning reaches were assigned a prioritization value of one (1), indicating that these locations should not be a priority for protection and restoration of riparian habitat associated with summer Chinook spawning habitat.

The *select by location* function was used to find those parcels that intersected riparian protection and restoration values adapted from the surveys by the USFWS (e.g. Hamstreet 2007, 2006). Results were recorded as a unique shapefile (see Figure 13), and saved to the master spreadsheet.

RESULTS

Parcels

A total of three hundred a ninety six (396) parcels were identified as being adjacent or as being within the study area. Three hundred and eighty five of these land areas were parcels identified as adjacent or having a parcel boundary within 25 meters of the river. An additional 11 "parcels" managed by the USFS were identified as adjacent or continuous with the Entiat River between RM 26.2 and 34.0. All 396 parcels are identified in the appendices. Once riparian prioritization processes are complete, mailing addresses needed to contact land owners or land managers will be provided to the EWPU and CCCD to further facilitate implementation of priority riparian protection and restoration projects.

Topographic Shading

Nine HILLSHADE grids were produced using the topographic shade analysis procedures described in the methods section. Each of the nine grids were composed of cell values ranging from 0 (complete shadow) to 255 (full sunlight). Relatively few parcels were associated with reaches of the Entiat River that had significant shade from topographic features. Only two of the nine HILLSHADE grid layers resulted in parcels being identified with areas of significant topographic shading. The HILLSHADE grid produced for the August 15 at 10:00 AM sample period resulted in 3 of the 396 parcels being identified as shaded by topography. The HILLSHADE grid produced for the September 15, 10:00 AM sample period (Table 1) resulted in 38 of the 396 parcels being identified as shaded by topography (Table 1, Figure 3).

Table 1. Maximum Topographic Shading

Parcels	Prioritization Value*	Number of Parcels	% Parcels
Parcels without topographic shade	0	358	90
Parcels with topographic shade	1	38	10

*Prioritization value of 0 = high priority and 1 = low priority

Existing Riparian Vegetation

The existing riparian vegetation data set developed by Lillquist and Erickson (2002) was one of the most important information sources used in this analysis. This assessment by Lillquist and Erickson (2002) addressed riparian vegetation and landuses throughout the Entiat River between RM 0 and 26.2. It characterized vegetation based on both riparian community type (e.g. no riparian vegetation, riparian forest, riparian meadow) and by relative height (e.g. small ~ 1'-25'; medium ~ 26'-70'; and large ~ 71'-100+'). The study considered local fire history, and used a combination of on-the-ground surveys, and existing aerial photography to develop a GIS database characterizing existing riparian vegetation. The analysis considered 1992 USFS aerial photographs, 1998 black and white orthophoto quadrangles,

Forward Looking Infra Red (FLIR) true-color imagery (Watershed Sciences, LLC 2001), and manual mapping of aerial photograph stereo pairs.

The data contained in the analyses by Lillquist and Erickson (2002) were used two different ways in this report, depending on whether the information was used to evaluate riparian restoration or riparian protection efforts.

Riparian Restoration Areas

The survey of landuses and riparian vegetation along the Entiat River completed by Lillquist and Erickson (2002) included the majority of the study area. The survey identified riparian vegetation along the Entiat River between RM 0 and RM 26.2. Results of the prioritization of riparian restoration areas based on the existing riparian vegetation criterion are summarized in Table 2 and illustrated in Figure 4. The majority of the parcels (206) in the study areas were associated with riparian vegetation having a large relative height (71'-100+'). Forty nine parcels were identified as having medium relative high (26'-71'). Thirty six parcels were identified as having no riparian vegetation, and should be prioritized for riparian restoration. An additional 74 parcels were associated with riparian vegetation of a small relative height (1'-25'), and may also be priority areas for riparian restoration. Thirty one parcels, located above RM 26.2 were not surveyed by Lillquist and Erickson (2002). Most of the area above RM 26.2 is managed by the USFS, and currently has mature riparian vegetation.

Of the 21,414,223 square feet (approximately 492 acres) mapped by Lillquist and Erickson (2002), only 259,895 square feet (approximately 6 acres) were identified as having no riparian vegetation. An additional 2,301,169 square feet (approximately 53 acres) were identified as relatively high priority, for a total of 2,561,064 square feet (approximately 59 acres). Sorting riparian restoration priorities by this criterion, alone, would produce a reasonable sized area that could be quickly restored, if determined to be the priority.

Table 2. Existing Riparian Vegetation – Riparian Restoration Areas Prioritization

Relative Height	Prioritization* Value	Number of Parcels	Area ft^2	% Area	% Parcels
No Vegetation	0	36	259,895	1	9
Small	0.25	74	2,301,169	11	19
Medium	0.5	49	3,090,512	14	12
Large	1	206	15,762,647	74	52
N/A	N/A	31	N/A	N/A	8

*Prioritization value of 0 = high priority, 0.25= relatively high priority, 0.5= moderate priority and 1 = low priority; N/A was assigned to parcels that were not surveyed by Lillquist and Erickson (2002).

Riparian Protection Areas

Results of the geospatial analysis of existing riparian vegetation used for the riparian restoration prioritization were also be used for the riparian protection prioritization (Table 3, Figure 4). The only difference between the datasets is the prioritization value assigned. Riparian protection priorities are the inverse of riparian restoration priorities. Of the 396 parcels in the study area, 206 parcels were identified as priority areas for riparian protection. The riparian area associated with the highest priority parcels represents 15,762,647 square feet (approximately 362 acres), or about 52% of the parcels and 74% of the mapped riparian area. Sorting riparian protection priorities by this criterion alone would produce too many parcels and too large of an area to readily proceed with implementation of a riparian protection

program. This criterion should be used as an initial sort of areas prioritized for riparian protection, but additional criteria should be used to narrow down priorities to a more manageable number of parcels and area.

Table 3. Existing Riparian Vegetation – Riparian Protection Areas Prioritization

Relative Height	Prioritization* Value	Number of Parcels	Area ft^2	% Area	% Parcels
No Vegetation	1	36	259,895	1	9
Small	0.5	74	2,301,169	11	19
Medium	0.25	49	3,090,512	14	12
Large	0	206	15,762,647	74	52
N/A	N/A	31	N/A	N/A	8

*Prioritization value of 0 = high priority, 0.25= relatively high priority, 0.5= moderate priority and 1 = low priority; N/A was assigned to parcels that were not surveyed by Lillquist and Erickson (2002).

Previous Riparian Planting Recommendations

The 1995 stream survey by the NRCS identified priority areas for restoration of riparian vegetation (CCCD 1998). Results of the prioritization of riparian protection and restoration areas based on the previous riparian planting recommendations criterion are summarized in Table 4 (see also Figure 5). Approximately 20.4 miles of the mainstem Entiat River were surveyed beginning at its confluence with the Columbia River. Approximately 14 miles of the Entiat River within the study area were, therefore, not surveyed by the NRCS. This are corresponds with 147 of the 396 parcels in the study area. Of the remaining 249 parcels, 97 (25%) of the parcels were identified as having previously been recommended for riparian restoration. This is quite a bit higher than the 36 parcels identified using the findings of Lillquist and Erickson (2002). In addition, the NRCS survey was completed over 10 years ago, and may not longer be representative of riparian conditions in the watershed. In addition, some of the NRCS recommendations were made based on noted areas of erosion or undercutting of the streambank. This criterion may, therefore, not be as useful as others available criteria to prioritize riparian restoration

Table 4. Previous Planting Recommendations

Planting Recommendation	Prioritization Value*	Number of Parcels	% Parcels
Yes	0	97	25
No	1	152	38
N/A	N/A	147	37

*Prioritization value 0 = high priority and 1 = low priority,; N/A was assigned to those parcels beyond RM 20.4 that were not evaluated in the ERIA (CCCD 1998).

Potential Shading Based on Aspect

Results of the analysis based on aspect are consistent with expectations (see Table 5, Figure 6). The Entiat River watershed is long and narrow, with the mainstem Entiat River flowing in a generally south-easterly direction (see Figure 1) and vegetation planted on the south or south-west bank would be expected to have the greatest shade benefits. Not surprisingly, approximately 31% of the parcels located along the south and southwest bank of the Entiat River were identified as priority areas for riparian restoration. An additional 69 parcels for a total of 192 parcels (approximately 48%) were identified as a

relatively high priority for riparian protection or restoration. A large number of parcels were, therefore, identified as potential priority restoration areas using this criterion. Conversely, a large number of parcels 204 (approximately 55%) were identified as moderate or low priority for riparian protection or restoration. Viewed this way, the aspect-based criterion appears to be a useful means to quickly eliminate a large area, or number of parcels, from consideration as priorities for protection and restoration of riparian vegetation.

Table 5. Potential Shading Based on Aspect

Direction Shade Originates From	Prioritization Value*	Number of Parcels	% Parcels
S, SW	0	121	31
W, SE	0.25	69	17
E	0.5	86	22
NW, N, NE	1	120	30

*Prioritization value of 0 = high priority, 0.25 = relatively high priority, 0.5=moderate priority, and 1= low priority.

Existing Pool Habitat

The low number of pools with in the Entiat River is considered to be a significant factor limiting salmonid production in the Entiat River Watershed (CCCD 2004, USFS-WNF 1996). A survey of the Entiat River completed by the NRCS included the identification of pool habitat in the lower 20.4 miles of the mainstem Entiat River. The survey was completed in 1995, but a review of air photography of the Entiat River between 1995 and present suggests that geomorphology is relatively stable. Given the relative geomorphic stability, the locations of pools mapped by the NRCS are assumed represent the current location of pools in the Entiat River.

Results of the prioritization of riparian protection and restoration based on the existing pool habitat criterion are summarized in Table 6 (see also Figure 7). Of the 249 parcels associated with NRCS surveys, 21 parcels were identified as being associated with class 1 pools, and were noted as high priority areas for protection and restoration of riparian vegetation. An additional 15 parcels were identified as being associated with class 2 pools, and another 25 parcels were identified as being associated with class 3 pools. Parcels associated with more than one class of pool were prioritized based on the highest class pool. For instance, a parcel associated with both a class 1 pool and a class 3 pool was identified in this geospatial prioritization as being associated with the class 1 pool, and assigned a prioritization value of zero (0, high). A total 61 parcels (approximately 15%) were identified as being associated with pool habitat in the Entiat River. Assuming that the number and location of pools did not change significantly between the survey date (1995) and current conditions, this criterion appears to be a useful means to rapidly prioritize areas for protection and restoration of riparian vegetation.

Table 6. Existing Pool Habitat

Pools	Prioritization Value*	Number of Parcels	% Parcels
Class 1 – depth > 1 meter	0	21	5
Class 2 – 0.5 < depth < 1 meter	0.25	15	4
Class 3 – depth < 0.5 meters	0.5	25	6
No pools present	1	188	48
N/A	N/A	147	37

* Prioritization Value of 0 = high priority, 0.25=relatively high priority, 0.5=moderate priority, 1 = low priority; N/A indicates parcels associated with the Entiat River upstream from RM 20.4 that was not surveyed by the NRCS (CCCD 1998).

Gaining Reaches

Gaining reaches are relatively uncommon in the Entiat River. Parcels associated with gaining reaches in the Entiat River were prioritized to reflect the importance of these reaches as sources of base flow during low flow periods, as sources of cool water temperature necessary to meet water temperature standards, and as thermal refugia for aquatic species (Table 7, Figure 8). Only 14 parcels were found to be associated with reaches of the Entiat River gaining more than 20 cfs per mile, identified in this analysis as high priority. An additional 29 parcels were identified with reaches gaining between 10 and 20 cfs, identified in this analysis as relatively high priority. Together, these 43 parcels identified as high or relatively high priority represent about 11% of the 396 parcels evaluated with this criterion. This criterion appears to be an important and valuable means of identifying priority areas for riparian protection and restoration.

Table 7. Gaining Reaches

Gain (cfs)	Prioritization Value*	Number of Parcels	% Parcels
> 20	0	14	4
10 – 20	0.25	29	7
0 – 10	0.5	83	21
< 0	1	270	68

*Prioritization value of 0= high priority, 0.25= relatively high priority, 0.5= moderate priority, and 1 = low priority

Potential Upwelling Areas Based on Land Type

Upwelling areas, like gaining reaches described above, can be critical to maintaining instream flow during the low flow period, mitigating high water temperatures, and providing thermal refugia for aquatic species. The USFS-WNF identified areas in the Entiat River watershed with the potential having features conducive to producing groundwater upwelling areas. This information was prioritized as part of this geospatial analysis of riparian areas (Table 8). The USFS did not provide data regarding the probability of upwelling occurring in areas adjacent to 171 (43%) of the 396 parcels included in this study. Of the 225 parcels for which data was available from the USFS-WNF, none of the parcels were identified as having a very high likelihood of being an upwelling area, and only one was identified by the USFS-WNF as having a relatively high likelihood of having an upwelling area.

Of the remaining parcels for which upwelling data were available, approximately 37% of the parcels were within areas of moderate potential upwelling, and 20% of the parcels were associated with areas of low likelihood of upwelling. This data layer provides information that could be used to independently

confirm results of the gaining reach evaluation, but does not appear as definitive or useful for prioritization of riparian protection or restoration sites as other criteria. This criterion, therefore, was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee members on the draft report. A unique shapefile data layer was produced, and will be made available to the CCCD and EWPU.

Table 8. Potential Upwelling Areas

Up Welling	Prioritization Value*	Number of Parcels	% Parcels
Very High	0	0	0
High	0.25	0	0
Moderate	0.5	147	37
Low	0.75	78	20
Very Low	1	0	0
N/A	N/A	171	43

*Prioritization value of 0= high priority, 0.25= relatively high priority, 0.5= moderate priority, and 1 = low priority; N/A was used for areas that the USFS-WNF did not provide data.

Bedrock

The location of bedrock outcrops and bedrock pinch-points is useful information in a riparian prioritization analysis because bedrock areas will not support dense stands of mature, shade-providing vegetation. Bedrock outcrops and pinch-points tend to have too few nutrients and too little space for deep-rooting, riparian species. Results of geospatial analysis of four datasets with information pertaining to bedrock follow:

Dixon (2003)

Dixon (2003) analyzed aquifer thickness throughout the study area. By associating parcels with aquifer thickness characteristics, GeoEngineers found that 35% of the parcels in the study area were associated with bedrock outcrops and pinch-points (Table 9, Figure 9).

Table 9. Riparian lands identified as likely bedrock areas (source Dixon 2003).

Bedrock	Prioritization Value*	Number of Parcels	% Parcels
Not Present	0	256	65
Present	1	140	35

*Prioritization value of 0 = high priority and 1= low priority.

NRCS (2001)

Soil surveys completed by the NRCS were used to evaluate parcels potentially associated with bedrock outcrops or pinch-points (Table 10). Of the 140 parcels evaluated using the NRCS bedrock criterion, only one parcel was identified as being associated with bedrock. Most of the parcels evaluated were not part of the soil survey conducted by the NRCS. Most of the parcels evaluated were not part of the soil survey conducted by the NRCS. Almost 73% of the parcels (289 of 396) were not associated with soil surveys completed by the NRCS. With as little of the study area covered by the NRCS soil surveys, and as few parcels identified as associated with bedrock in the soil survey, this geospatial data did not provide very useful information for the prioritization analysis. This criterion was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee

members on the draft report. A unique shapefile data layer was produced, and will be made available to the CCCD and EWPU.

Table 10. Bedrock areas as defined by the NRCS (2001).

Bedrock	Prioritization Value*	Number of Parcels	% Parcels
Not Present	0	106	27
Present	1	1	<1
N/A	N/A	289	73

*Prioritization value of 0 = high priority and 1 = low priority; N/A was used when no data were available for a parcel.

USFS-WNF

Land form analyses completed by the USFS-WNF were used to evaluate parcels potentially associated with bedrock outcrops or pinch-points (Table 11). Only four parcels were identified as being associated with bedrock. Many of the parcels evaluated were not part of the soil survey conducted by the USFS-WNF. Almost 43% of the parcels (169 of 396) were not associated with land form data completed by the USFS-WNF. With as little of the study area covered by the USFS-WNF landform analysis, and as few parcels identified as being associated with bedrock, this geospatial data did not provide very useful information for the prioritization analysis. This criterion was dropped from the prioritization analyses following the May 29, 2007 site visit and based on comments from technical committee members on the draft report. A unique shapefile data layer was produced, and will be made available to the CCCD and EWPU

Table 11. Land forms identified by the USFS-WNF as bedrock.

Bedrock	Prioritization Value*	Number of Parcels	% Parcels
Not Present	0	223	56
Present	1	4	1
N/A	N/A	169	43

*Prioritization value of 0 = high priority and 1 = low priority; N/A was used when no data were available for a parcel.

WDNR (2002)

The WDNR (2002) completed a 1;100,000 scale digital analysis of geology of Washington State. These data were use in the geospatial analysis to determine if any parcels were associated with bedrock outcrops or pinch-points along the Entiat River (Table 11, Figure 10). The analyses by WDNR covered the full study area. Twenty three parcels (approximately 6 %) of the parcels were found to be associated with bedrock. Most of the parcels (373, approximately 94%) were not found to be associated with bedrock.

Table 12. Areas identified by the WDNR as bedrock (WDNR 2002).

Bedrock	Prioritization Value	Number of Parcels	% Parcels
Not Present	0	373	94
Present	1	23	6

*Prioritization value of 0 = high priority and 1 = low priority

Geomorphic Stream Type

GeoEngineers and the CCCD reviewed preliminary results and elected no to use the geomorphology attribute as part of the prioritization process at this time. Results of this analysis are not reported. GIS database information produced from the GeoEngineers geospatial analysis for the geomorphic stream type attribute is provided to the EWPU and CCCD along with the final draft report. This criterion was not included in un-weighted preliminary or final prioritization matrices. A unique shapefile data layer was produced, and will be made available to the CCCD and EWPU

Steelhead Spawning Habitat

Steelhead surveys completed by the USFWS (Nelle 2005) were used in the geospatial analysis to prioritize parcels for protection and restoration of riparian vegetation (Table 13, Figure 11). Approximately one half (47%) of the parcels were found to be adjacent to areas identified by the USFWS as having steelhead redds during the 2005 and 2006 surveys. These parcels were assigned a value of zero (0) indicating priority for riparian protection and restoration. Surveys appeared to end at RM 27.5. Therefore the 9 parcels between RM 27.5 and 34 were designated as "N/A" indicating that no data were available.

Table 13. Riparian parcels adjacent to steelhead redd locations.

Steelhead Redds	Prioritization Value	Number of Parcels	% Parcels
Present	0	187	47
Not Present	1	200	51
N/A	N/A	9	2

*Prioritization value of 0 = high priority and 1 = low priority; N/A was used when no data were available for a parcel.

Spring Chinook Spawning Habitat

Spring and summer Chinook survey reaches used by the USFWS (e.g. Hamstreet 2007, 2006) were converted into a geospatial format by the CCCD (2007). These reach data were used as part of the geospatial prioritization analyses to identify priority areas for protection and restoration of riparian vegetation (Table 14, Figure 12). Approximately one half (46%) of the parcels were found to be adjacent to areas identified by the USFWS as areas where spring Chinook typically spawn. These parcels were assigned a value of zero (0) indicating a high priority for riparian protection and restoration. The remaining two hundred and fifteen parcels (approximately 54%) were along reaches of the Entiat River where spring Chinook redd surveys are typically not conducted (Hamstreet 2007, 2006). These parcels were assigned a value of one (N/A), indicating that a prioritization value could not be assigned due to a lack of information. As all reaches surveyed were found to have spring Chinook Redds, no parcels were found to be associated with areas where spring Chinook redds were not found.

Table 14. Riparian parcels adjacent to spring Chinook redd locations.

Spring Chinook Redds	Prioritization Value	Number of Parcels	% Parcels
Present	0	181	46
Not Present	1	0	0
N/A	N/A	215	54

*Prioritization value of 0 = high priority and 1 = low priority; N/A was used when no data were available for a parcel.

Summer Chinook Spawning Habitat

Spring and summer Chinook surveys reaches used by the USFWS (e.g. Hamstreet 2007, 2006) were converted into a geospatial format by the CCCD (2007). These reach data were considered in the geospatial analysis, and used as part of the prioritization process to determine candidate areas for priority protection and restoration of riparian vegetation (Table 15, Figure 13). Close to one half (44%) of the parcels were found to be adjacent to areas identified by the USFWS as areas where summer Chinook typically spawn. A value of zero (0) was use to indicate high priority for riparian protection and restoration. Approximately 14% of the parcels (55 out of 296) were associated with reaches of the Entiat River where summer Chinook redds were not found. A prioritization value of one (1) was used to denote low priority for protection and restoration of riparian vegetation.

The remaining one hundred and sixty five (165) parcels (approximately 22%) were along reaches of the Entiat River where summer Chinook redd surveys were not conducted (Hamstreet 2007, 2006). These parcels were designated (N/A), indicating that a prioritization value could not be assigned due to a lack of information.

Table 15. Riparian Parcels adjacent to summer Chinook redd locations.

Spring Chinook Redd Locations	Prioritization Value	Number of Parcels	% Parcels
Present	0	176	44
Not Present	1	55	14
N/A	N/A	165	22

*Prioritization value of 0 = high priority and 1 = low priority; N/A was used when no data were available for a parcel.

Un-weighted Prioritization Results Summary

Initial, un-weighted prioritization matrices were developed identifying parcels in need of restoration and protection of riparian vegetation, using the following criteria (see Appendix A and B):

1. Little or no topographic shading,
2. Little or no riparian vegetation present,
3. Previously identified as priority areas for riparian restoration
4. Advantageous shading orientation
5. Pool habitat for anadromous fish present,
6. Associated with a gaining reach of river,
7. Associated with a potential groundwater upwelling area,
8. Had no bedrock present,
9. Associated with steelhead (O. mykiss) spawning areas,
10. Associated with spring Chinook (O. tshawytscha) spawning areas, and
11. Associated with summer Chinook (O. tshawytscha) spawning areas.

Several of the above identified criteria had multiple data layers (e.g. topographic shading). Therefore, the summation approach described in the methods section produced a total of twenty two (22) separate attributes evaluated through the geospatial prioritization process. A parcel that met, or did not fail, criteria for all prioritization attributes was expected to have a prioritization summation value of zero (0). A parcel that failed to meet prioritization criteria for all prioritization attributes was expected to have a prioritization value of 22.

All 396 parcels evaluated met, or did not fail, prioritization criteria for a majority of the attributes evaluated. As a result, all parcels had prioritization summation values less than 9.00, indicating that prioritization criteria were met for at least 13 of the 22 attributes. Looking only at the 10% highest priority parcels (top 40 of 396), all parcels had a prioritization summation value less than 3.00, indicating that prioritization criteria were met for at least 19 of the 22 attributes. The highest 10 of 396 parcels had a summation value less than 2.00, indicating that prioritization criteria were met for at least 19 of the 22 attributes. The highest priority parcel for riparian restoration had a summation value of 0.25 and the highest priority parcel for riparian restoration had a summation value of 0.50, indicating that these parcels were not identified as "low priority" for any of the 22 criteria used.

The only difference between the riparian protection and restoration prioritization processes resulted from the "existing riparian" attribute. With this attribute, a parcel identified as having large existing riparian vegetation was assigned a prioritization value of one (1, low priority) for the riparian restoration, but was assigned a prioritization value of zero (0, high priority) for riparian protection. Conversely, a parcel identified as having no existing riparian vegetation was assigned a prioritization value of zero (0, high priority) for riparian restoration, but was assigned a prioritization value of one (1, low priority) for riparian protection.

Parcels identified as the highest priority for restoration of riparian vegetation were not, necessarily the lowest priority for protection of riparian vegetation. Of the ten parcels identified as highest priority for restoration of riparian vegetation, six (6) were among the ten highest priority for protection of riparian vegetation. Of the forty parcels identified as highest priority for restoration of riparian vegetation, ten (10) were among highest 10% priority for protection of riparian vegetation. One parcel (ID number 329) was ranked number 9 out of 396 in the riparian restoration prioritization and was number 1 out of 396 for protection of riparian vegetation. The other nine parcels that were among the top 10% for both protection and restoration of riparian vegetation were identification numbers 271, 278, 268, 320, 390, 392, 60, 62, and 68.

Field Verification of Un-weighted Results

GeoEngineers and the USFS staff conducted site visits to the ten parcels identified as priorities using the un-weighted prioritization (Figure 14). The parcel identification numbers for these 10 parcels were: 329, 271, 278, 268, 320, 390, 392, 60, 62, and 68. These parcels were visually inspected to verify whether or not prioritization criteria accurately characterized parcels for prioritization purposes. The site visits confirmed modeling results for all 10 parcels.

The un-weighted prioritization produced some unexpected results. Results indicated that US Forest Service parcels located on the right bank of the Entiat River near the Silver Falls campground were priorities for both protection and restoration of riparian vegetation. These parcels are identified as Township 28 North, Range 18 East of the Willamette Meridian, Section 2 and 11 (T28NR18E_S02 and T28NR18E_S11, Figure 14). The site visit revealed this area to be active floodplain associated with the Entiat River. Riparian vegetation was present, but was a uniform age class and was cluttered with large amounts of deadfall and underbrush. Concern that fire would result in total loss of the riparian area has

prompted the USFS to propose forest management actions in this area. Search of records regarding forest management actions in this area revealed a 1986 air photographic record of logging in the area (Appendix C). Log skidding is clearly visible on the unstable, talus slopes appearing as white, linear corridors through the trees (Figures C-1 and C-2). In addition, significant portions of the riparian floodplain and adjacent lands were heavily logged, as illustrated by bare ground and tractor trails (Figures C-2 and C-3). This air photographic record supports observations made during site visits that the USFS should implement land management actions at this site, recognizing the area as a priority riparian area in the watershed.

Weighted Prioritization Results Summary

In comments written in response to the draft report for this project, EWPU habitat technical committee members unanimously recommended that redundant criteria be eliminated from the prioritization and that criteria be weighted as part of the prioritization process. Comments regarding the prioritization criteria were received from the CCCD, the USFS, the Yakama Nation, the Bonneville Environmental Foundation, BioAnalysts, Inc. and Terraqua, Inc. A number of approaches were discussed among committee members. It was recognized that the primary purpose of this geospatial analysis was to assist the EWPU and CCCD with the development of a riparian restoration plan to help meet water temperature standards in the watershed. As such, committee members acknowledged the importance of three criteria: (1) the presence or absence of riparian vegetation, (2) the orientation of riparian vegetation with respect to position of the sun and river (aspect), and (3) gaining reaches of river. Additional criteria recommended by habitat sub-committee members were the presence or absence of bedrock and the presence or absence of steelhead redds. The Yakama Nation suggested that four criteria be used for prioritization, as follows in order of priority: existing riparian vegetation, aspect, gaining reaches, and steelhead redds present. GeoEngineers assumed that other criteria not mentioned by committee members were to remain as part of the prioritization process, as equally weighted criteria.

The May 29, 2007 site visit confirmed that un-weighted criteria used to sort parcels were well represented in the geospatial analysis. The site visit also illustrated that the analyses completed by Lillquist and Erickson (2002) regarding the condition of riparian vegetation (presence, absence, height of vegetation, etc.) was still representative of conditions at the site, and that this should be the most important criterion used in a prioritization process. The site visit; review of air photographs, orthophotographs, thermal infra-red (TIR, Watershed Sciences, Inc.) and other aerial imagery; and the SNTEMP analysis (Hendrick and Monahan 2003) supported recommendation from committee members that existing riparian vegetation, aspect, and gaining reaches were priority criteria by which to sort parcels.

GeoEngineers, Inc. identified criteria used in the un-weighted prioritization that were redundant or did not contribute to the prioritization process. Eight of the nine topographic hillshade grid sort were eliminated. The only topographic hillshade grid used in the final prioritization was that developed for the September 15, 10:00 AM time frame. As described earlier in this document, other criteria eliminated from the prioritization process included: potential upwelling, NRCS bedrock, and WNF bedrock.

GeoEngineers, Inc. sorted the parcel database using the existing riparian criterion as the highest priority attribute, aspect as a secondary prioritization attribute, and gaining river reaches as a tertiary prioritization criterion. A variety of attributes and combinations of attributes were used for subsequent levels of prioritization. Once data were sorted based on the existing riparian vegetation, aspect, and gaining reach criteria, no attribute or combination of attributes were found to significantly improve sorting as compared with an un-weighted sort by all remaining criteria. Therefore, the final weighted sort resulted from the following for criteria, in order of priority:

1. Presence or absence of existing riparian vegetation, then,
2. Aspect, then,
3. Gaining reach of river, then,
4. All remaining un-weighted criteria.

Results of the weighted prioritization were somewhat different as compared with the un-weighted prioritization. For instance, the two parcels identified on USFS-managed lands under the un-weighted approach were not identified as either priorities for protection or restoration of riparian vegetation, because these were among 31 parcels that were not evaluated for the presence or absence of riparian vegetation by Lillquist and Erickson (2002). Therefore, when parcels were sorted by this criterion, these 31 parcels were not prioritized.

Seven of the 10 parcels identified with the un-weighted approach as priority for both protection and restoration of riparian vegetation were also identified as priorities for protection or restoration using the weighted approach. Six of the 10 parcels were identified as priorities for protection of riparian vegetation. These six parcels have identification numbers: 329, 278, 271, 60, 62 and 68. Parcel ID number 329 was identified as the highest priority for protection of riparian vegetation (number 1 of 396) using both the un-weighted and weighted processes. One of the 10 un-weighted prioritization parcels (identification number 320) was identified as a priority using the weighted approach. One of the 10 un-weighted prioritization parcels (identification number 268) was neither a priority for protection or restoration of riparian vegetation based on the weighted method. This parcel fell off the priority list because it was identified by Lillquist and Erickson (2002) as having existing vegetation with medium height as well as moderate scoring on the gaining reach criterion.

Prioritization matrices based on weighted criteria for restoration and protection of riparian vegetation are provided in Appendices D and E, respectively.

DISCUSSION AND RECOMMENDATIONS

Prioritization criteria were selected for this analysis to reflect important attributes of a properly functioning riparian ecosystem, and to protect and restore habitat for priority species. Results described in this report can be used by the EWPU and CCCD to significantly reduce the search area for riparian protection and restoration projects in the Entiat River watershed, by applying the recommended prioritization criteria. The previous, general recommendations of the EWPU to protect and restore riparian areas throughout the watershed (CCCD 2004, 2006) are still valid, and ongoing efforts to protect and restore riparian vegetation as part of watershed and habitat restoration and other projects in the watershed should continue. Using the prioritization information in this report and associated database files, however, the CCCD and EWPU are now able to focus riparian protection and restoration efforts on priority parcels or groups of parcels (e.g. top 10, top 10%) as time and funding permits.

We recommend that the EWPU and CCCD use information contained in this report and associated GIS database files to develop and implement a Riparian Protection and Restoration Plan for the Entiat River watershed, with the following considerations:

1. The EWPU and CCCD should continue to protect and restore riparian vegetation throughout the Entiat River watershed as part of ongoing watershed and habitat restoration efforts, consistent with findings and recommendations in the Management Plan (CCCD 2004), the DIP (2006) and SNTEMP analyses (Hendrick and Monahan 2003).

2. Both un-weighted (see Appendices A and B) and weighted (see Appendices D and E) prioritization matrices should be used by the EWPU and CCCD. Un-weighted prioritization matrices are valuable in identifying parcels that are priorities for both protection and restoration of riparian vegetation for riparian shade benefits to water temperature as well as other aquatic resource values (e.g. salmon and steelhead habitat), and do a better job identifying priority parcels not evaluated by Lillquist and Erickson (2002). Weighted prioritization matrices, however, do a better job identifying parcels that are important for either protection or restoration of shade benefits with respect to water temperature. The weighted prioritization process also did a better job differentiating between parcels that should be approached as riparian restoration projects versus those that should be approached primarily as riparian protection projects.

3. This geospatial analysis should be used to guide a focused outreach effort by the EWPU and CCCD. The analysis and database identify priority areas for protection and restoration of riparian vegetation, where new outreach efforts should be focused if not already a part of ongoing watershed and habitat restoration efforts.

4. The EWPU and CCCD should use this geospatial prioritization analysis and database, in part, as justification to the WDOE and the EPA for continued down-listing of the Entiat River WRIA as Category 4b under the Clean Water Act, until water temperature data indicate temperature standard are met.

5. The CCCD and EWPU should pursue Clean Water Act, Watershed Planning, Salmon Recovery, Chelan PUD Habitat Conservation Plan (HCP), BPA Fish and Wildlife Mitigation Program and other watershed and habitat enhancement funds. Funds should be used to design and implement riparian habitat projects on lands identified as priorities for protection and restoration of riparian vegetation, where willing landowners support such work. Grant funding proposals should reference these geospatial analysis and prioritization results, in part, as justification for project funding;

6. The USFS-Entiat Ranger District has already expressed interested in pursuing a riparian protection and restoration project on lands near the Silver Falls campground, identified as part of the un-weighted prioritization process (Figure 14). The CCCD and EWPU should use this geospatial analysis to support any USFS proposals to protect and restore the USFS lands identified near the Silver Falls campground. The CCCD and EWPU should consider soliciting matching funds (Challenge Grant) for any USFS project proposals.

7. The CCCD and EWPU should, as a priority, make contact with the owners and/or managers of properties identified in this document by parcel identification numbers 320 and 329. These parcels were identified as the highest priorities for the restoration and protection of riparian vegetation, respectively. These parcels were the highest priority using both the un-weight and weighted approaches. The CCCD and EWPU should inquire about the interest and willingness of landowners in riparian area protection and restoration programs managed by the CCCD and partners.

8. The CCCD and EWPU should continue to work with technical sub-committee members to add data and modify prioritization criteria to address other riparian habitat-related interests. For example, point data should be obtained identifying the location of priority bull trout and spring Chinook spawning locations. Point data should also be obtained identifying any priority rearing areas. By assembling such data and incorporating this information into an analysis priority habitat area for these threatened and endangered species, the EWPU and CCCD can better focus limited habitat enhancement funds on projects expected to have the greatest benefit. In addition, the SNTEMP analysis pointed out the projects that combine instream habitat restoration with restoration of riparian vegetation would have the greatest influence mitigating water temperature exceedences (Hendrick and Monahan 2003).

9. The EWPU and CCCD should design and implement a comprehensive instream temperature monitoring protocol in order to fully document the results of any/all riparian restoration efforts in the Entiat River Watershed. Fully documenting how the river temperatures respond to riparian treatments will assist other river systematic analyses such as those being implemented through the Integrated Status and Effectiveness Monitoring Program (ISEMP). The ISEMP may have temperature-based protocols that will serve as a reasonable starting point, but may not be sufficient to assess site specific treatments intended to address water temperature issues.

10. Rivers and their associated riparian corridors will change over time. This geospatial analysis should be updated as new information becomes available. For instance, LiDAR data were recently collected for the Entiat River and other watersheds in the Upper Columbia River. LiDAR could be used to update riparian vegetation information, including analyses of riparian vegetation height, completed by Lillquist and Erickson (2002).

This final draft report includes figures illustrating relationships between parcels in the study area and each of the geospatial attributes evaluated (Figures 2 through 14), produced from the GIS database assembled to complete this project. Appendices A and B are printouts of the master spreadsheet file sorted using the un-weighted riparian restoration and riparian protection prioritization processes, respectively. Appendix C provides illustrations of a riparian area located on USFS-managed lands, identified as a priority for both protection and restoration of riparian vegetation. Appendices D and E are printouts of the master spreadsheet file sorted using the weighted riparian restoration and riparian protection prioritization processes, respectively. Together with this report, GeoEngineers is providing the CCCD and the EWPU with a final GIS database, and associated spreadsheet files for use implementing its Riparian Area Plan.

LIMITATIONS

Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

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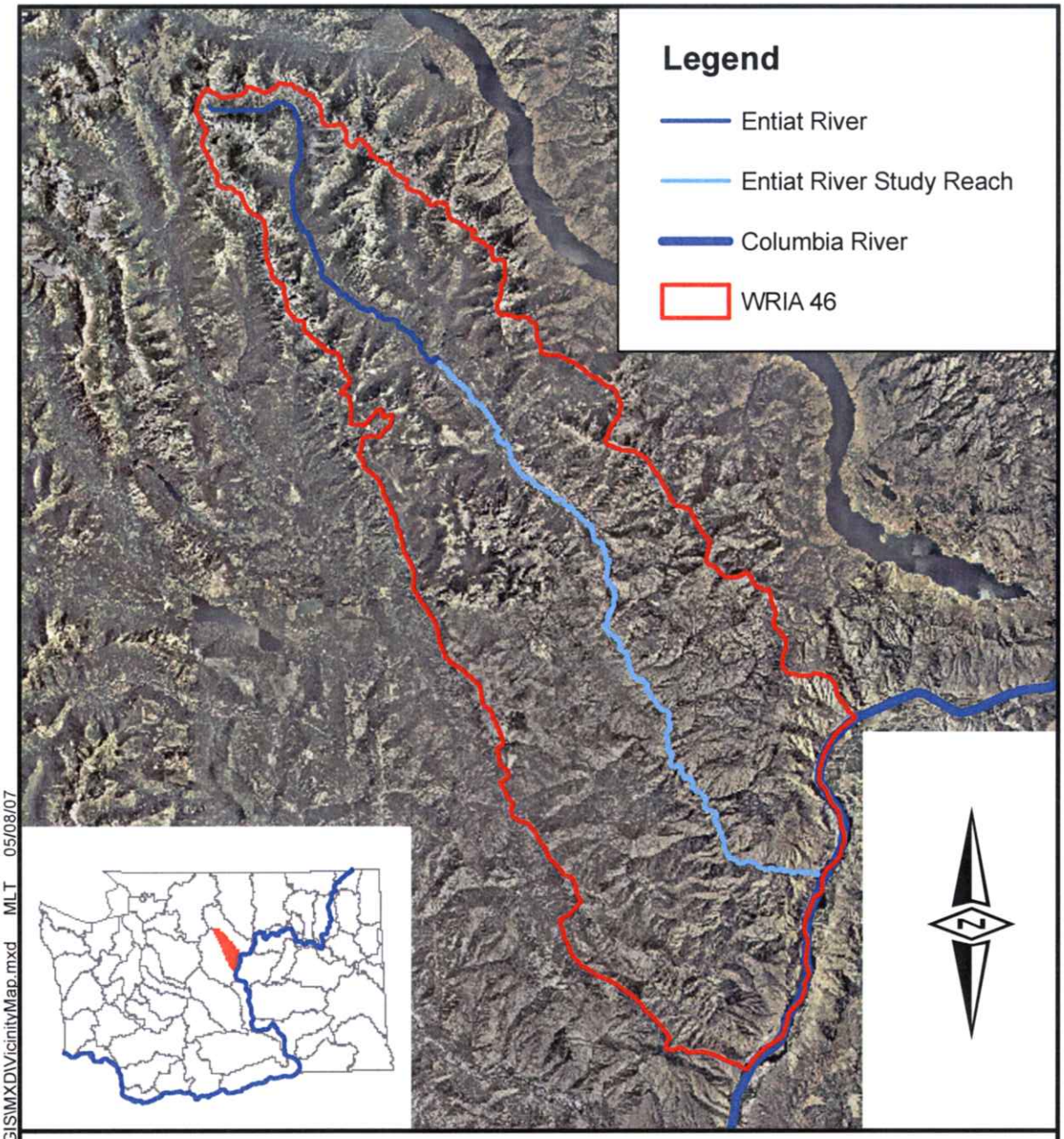

Notes:

1. All locations and features shown are approximate.
2. This drawing is for informational purposes. It is intended to assist in showing features discussed in an attached document. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

Lambert Conformal Conic, Washington State Plane North North American Datum 1983

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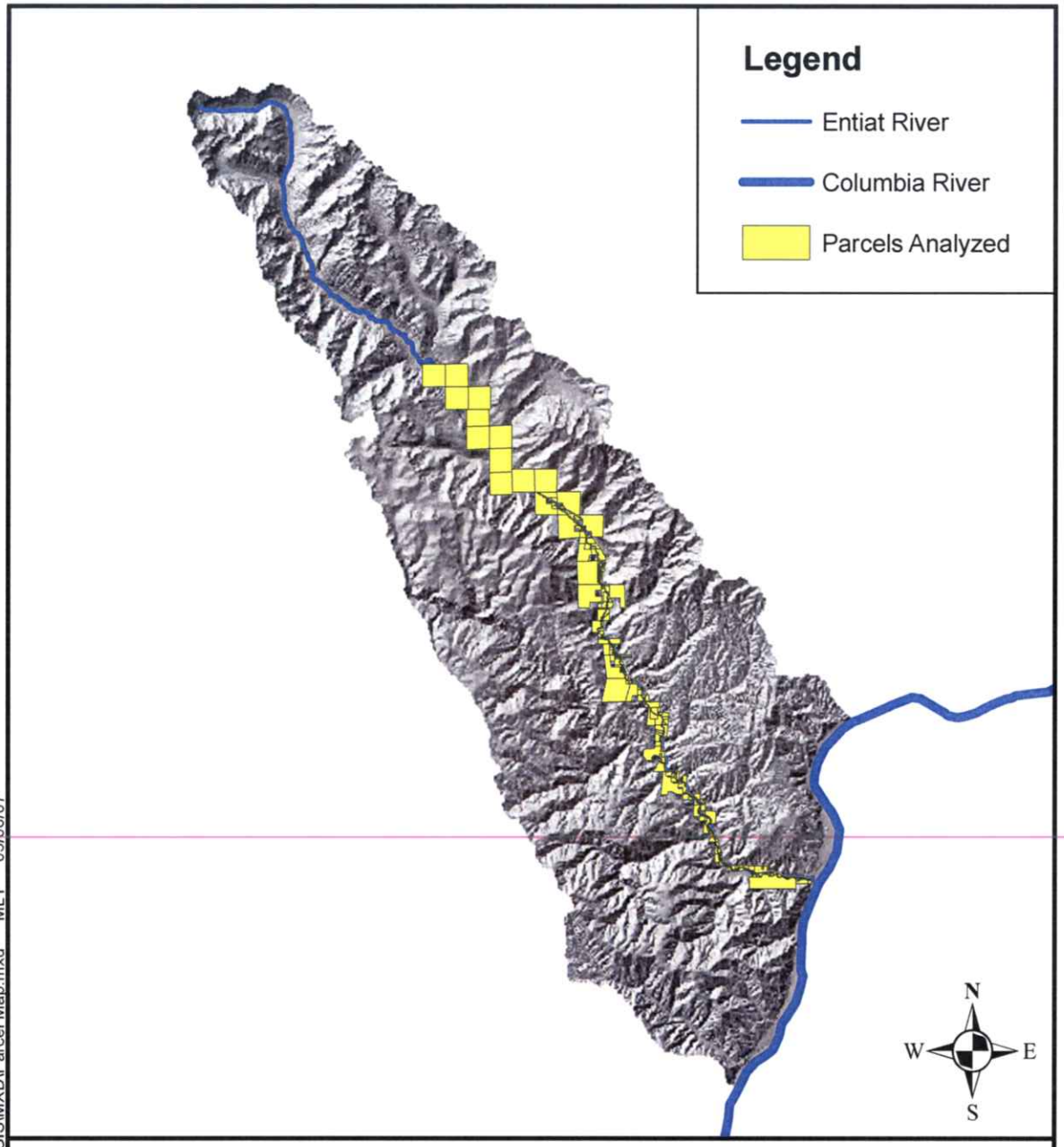
Vicinity Map

Riparian Restoration Prioritization

GeoEngineers

Figure 1



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Notes:

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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Parcels Analyzed

Riparian Restoration Prioritization

GeoEngineers

Figure 2

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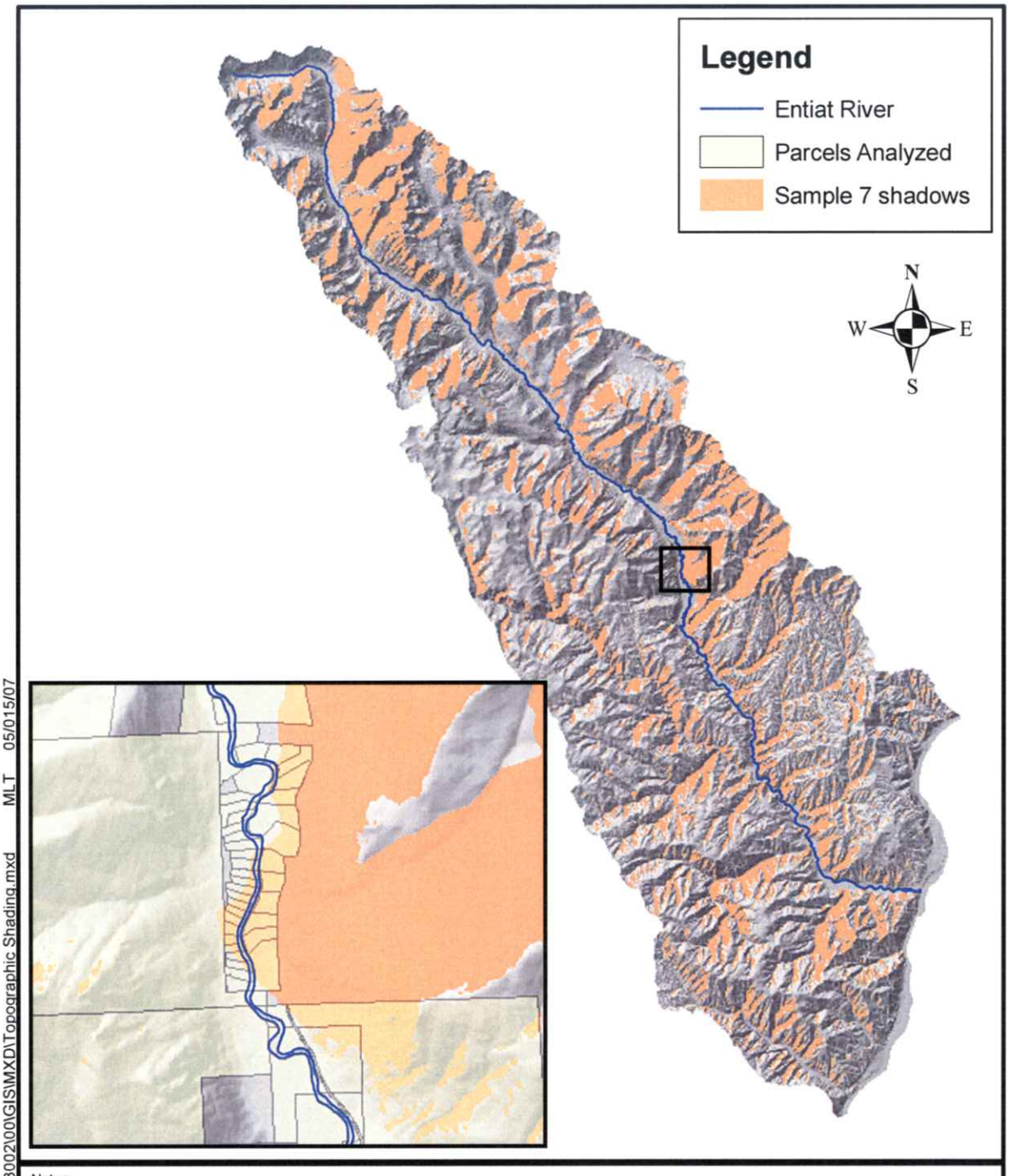

Notes:

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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Topographic Shading

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 3

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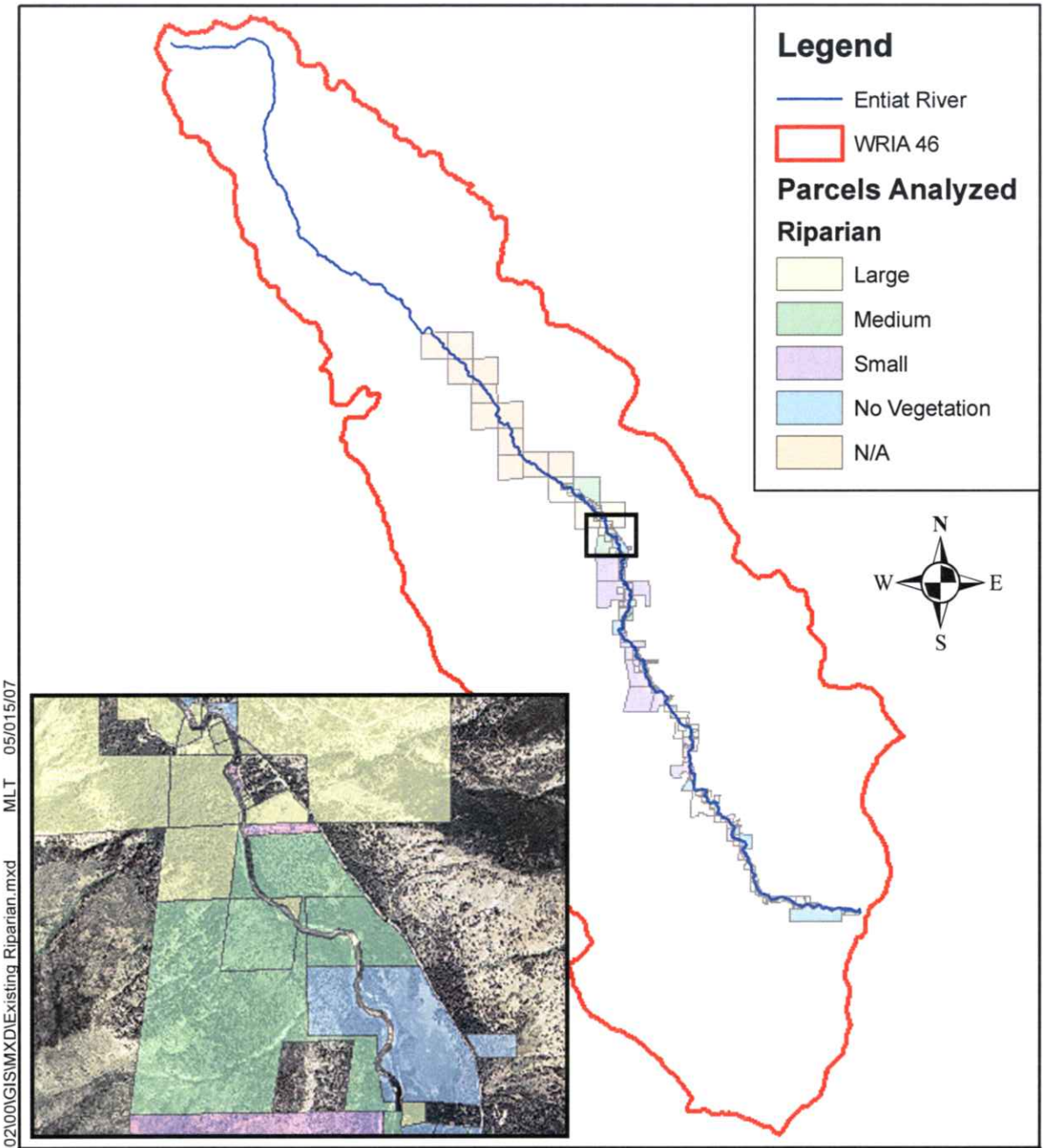

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Notes:

1. All locations and features shown are approximate.
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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

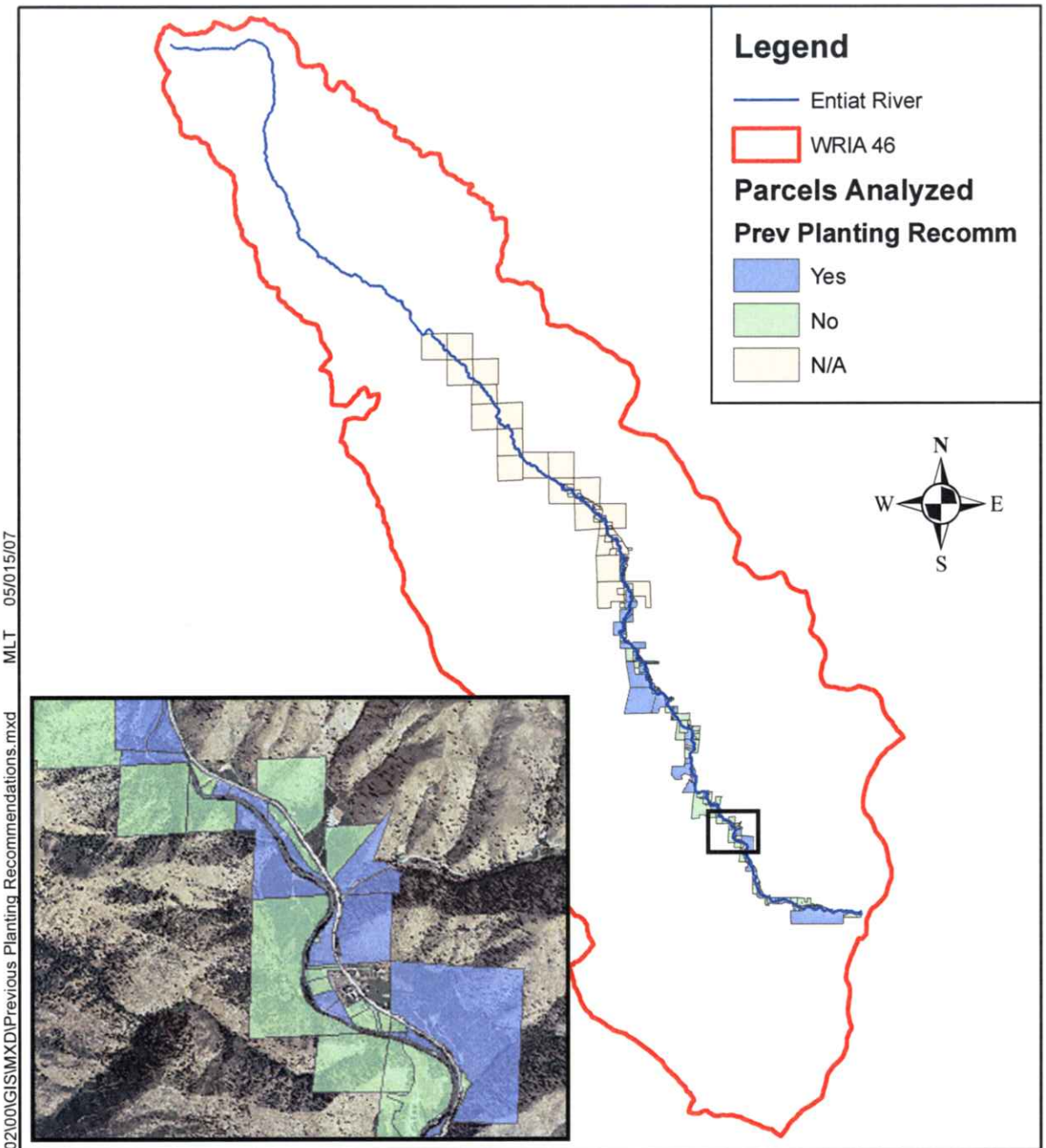
Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Existing Vegetation

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 4



Office: BAM Path: P:\15\15058002\00\GIS\MXD\Previous Planting Recommendations.mxd MLT 05/015/07

Notes:

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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

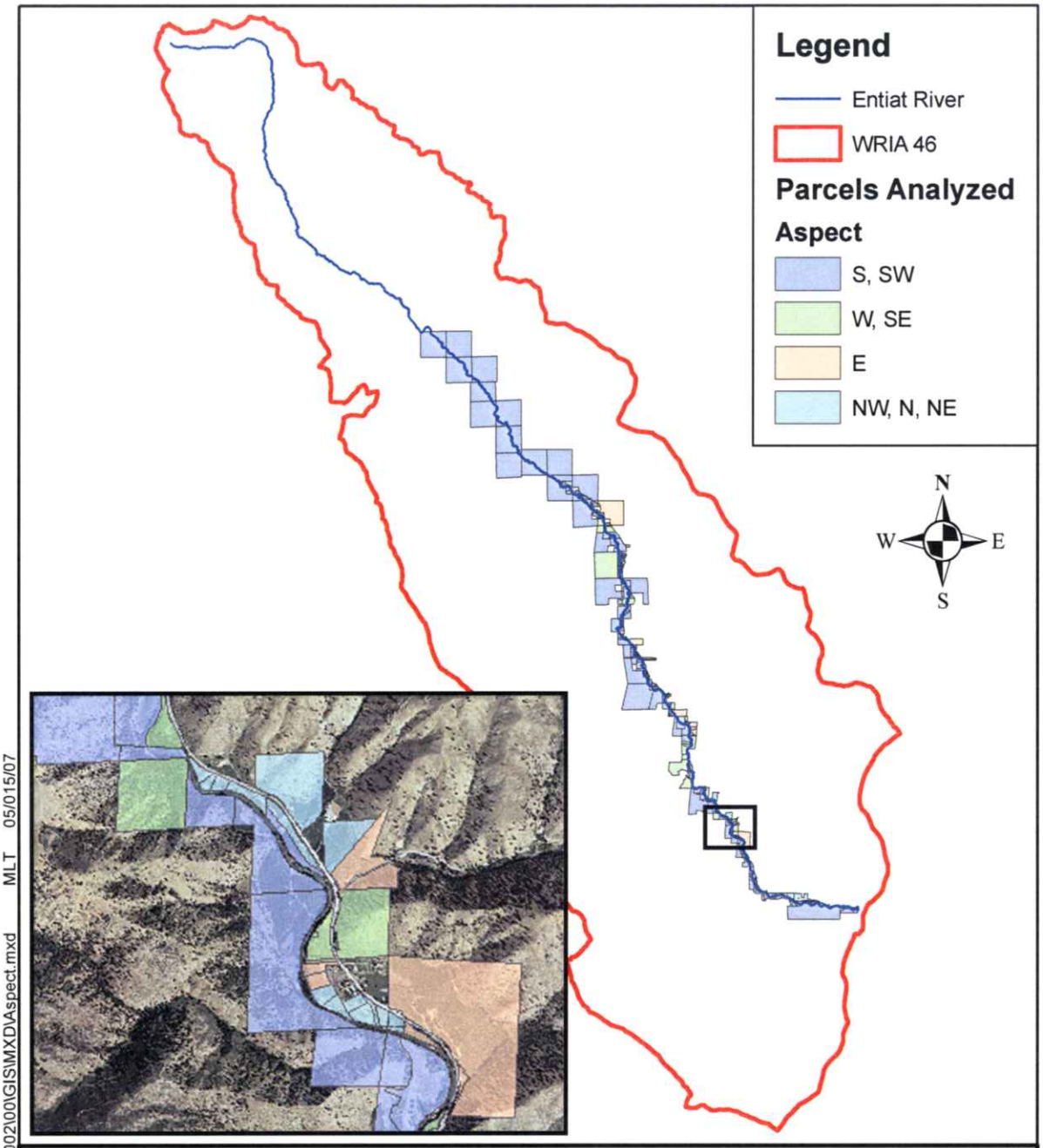
Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Previous Planting Recommendations

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 5



Office: BAM Path: P:\15\15058002\00\GIS\MXD\Aspect.mxd MLT 05/015/07

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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

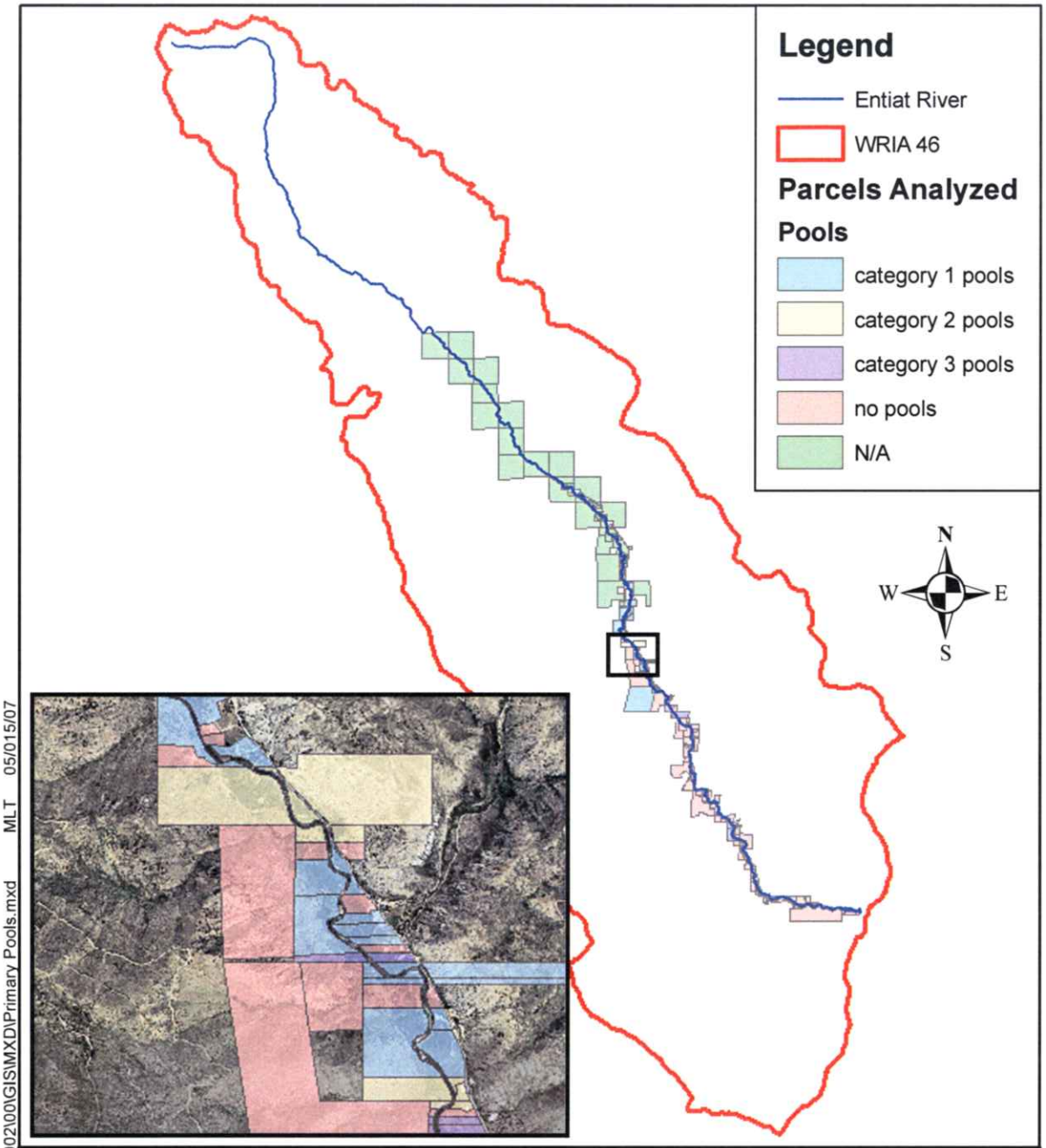
Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Shading Based on Aspect

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 6



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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

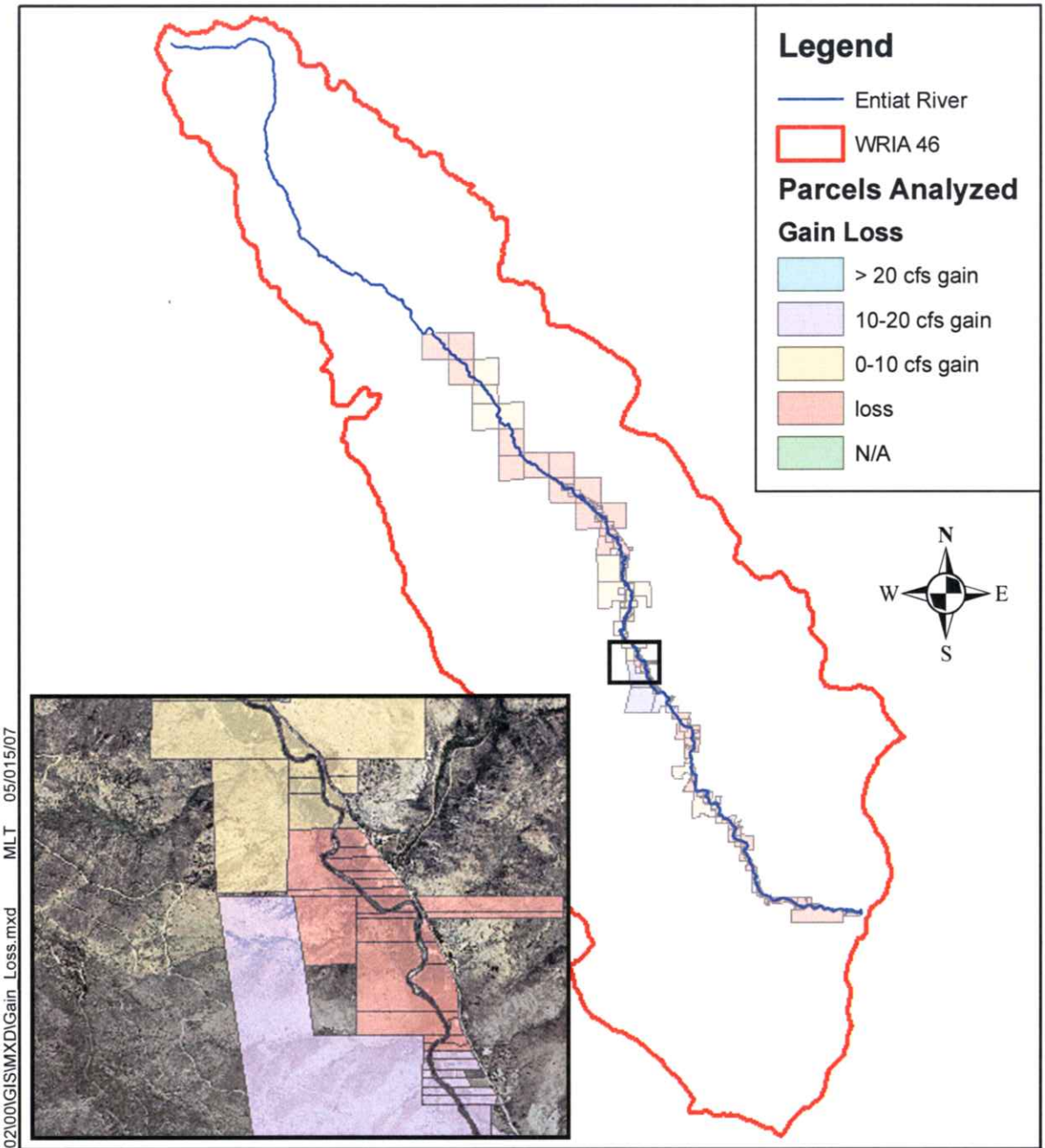
Office: BAM Path: P:\151\150580021\00\GIS\MXD\Primary Pools.mxd MLT 05/015/07

Primary Pools

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 7



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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

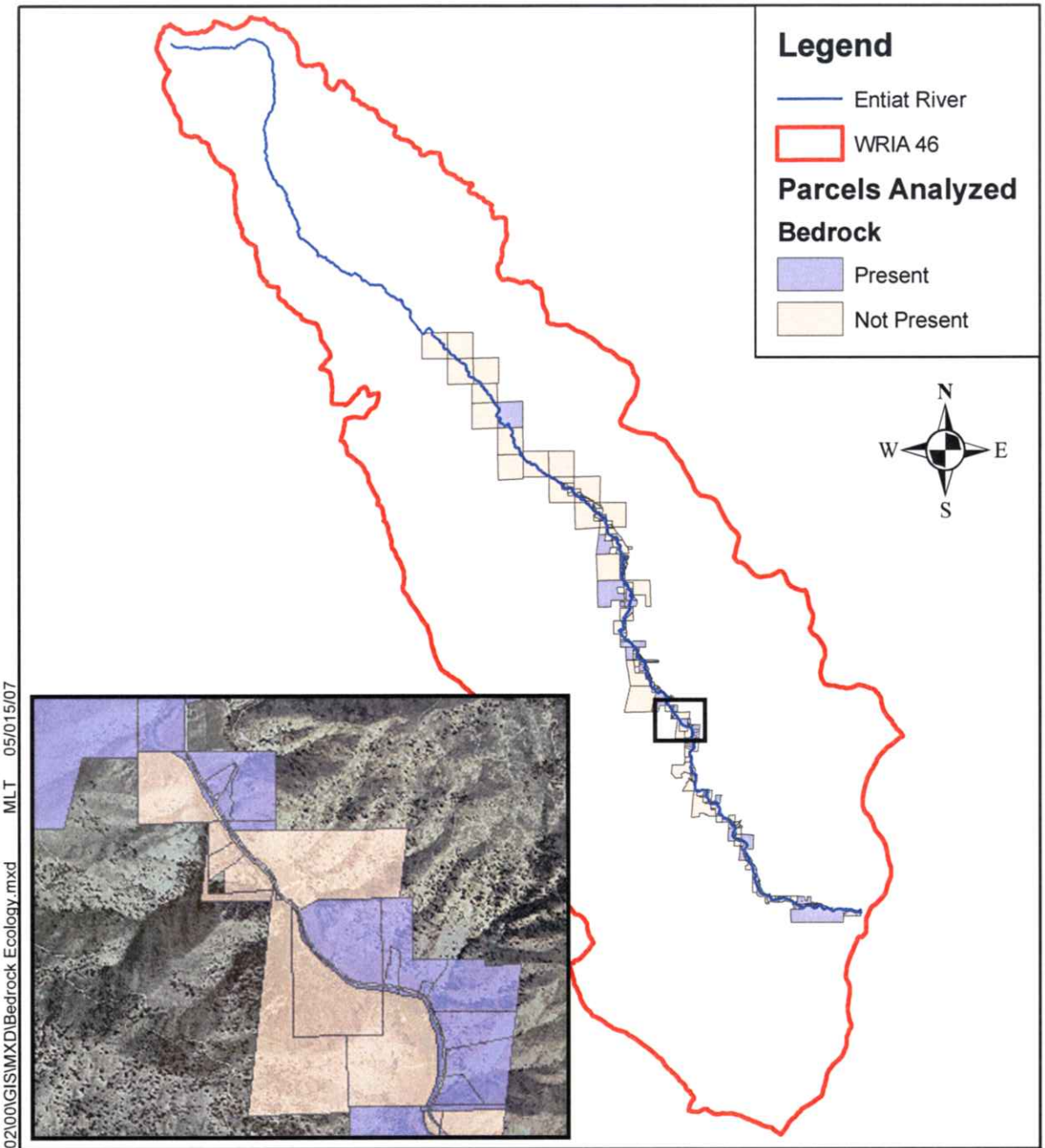
Office: BAM Path: P:\15\150580021001GIS\MXD\Gain_Loss.mxd MLT 05/015/07

Gaining Reaches

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 8



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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

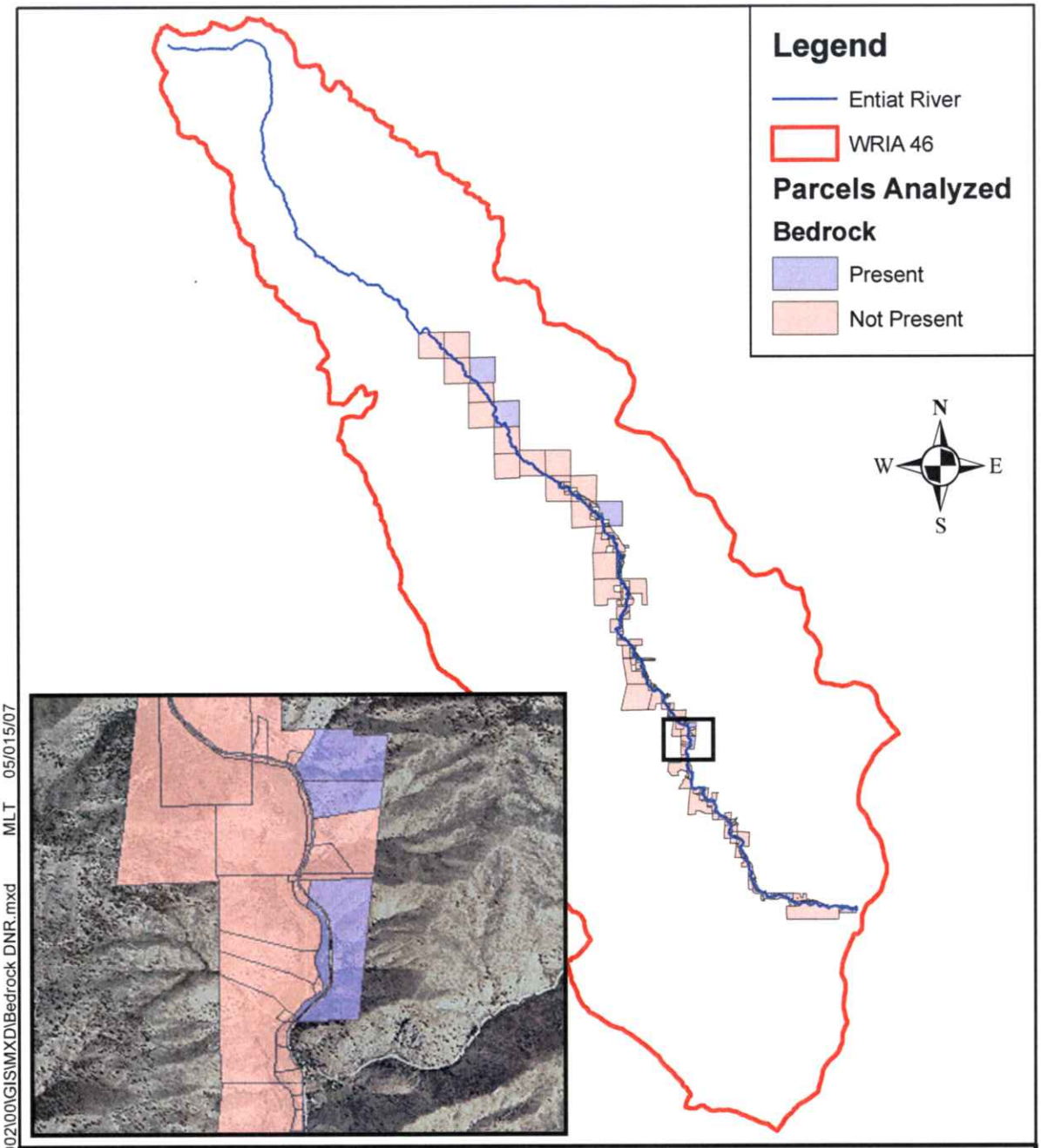
Office: BAM Path: P:\151505800200\GIS\MXD\Bedrock Ecology.mxd MLT 05/015/07

Bedrock Locations (Dixon 2003)

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 9



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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

Lambert Conformal Conic, Washington State Plane North North American Datum 1983

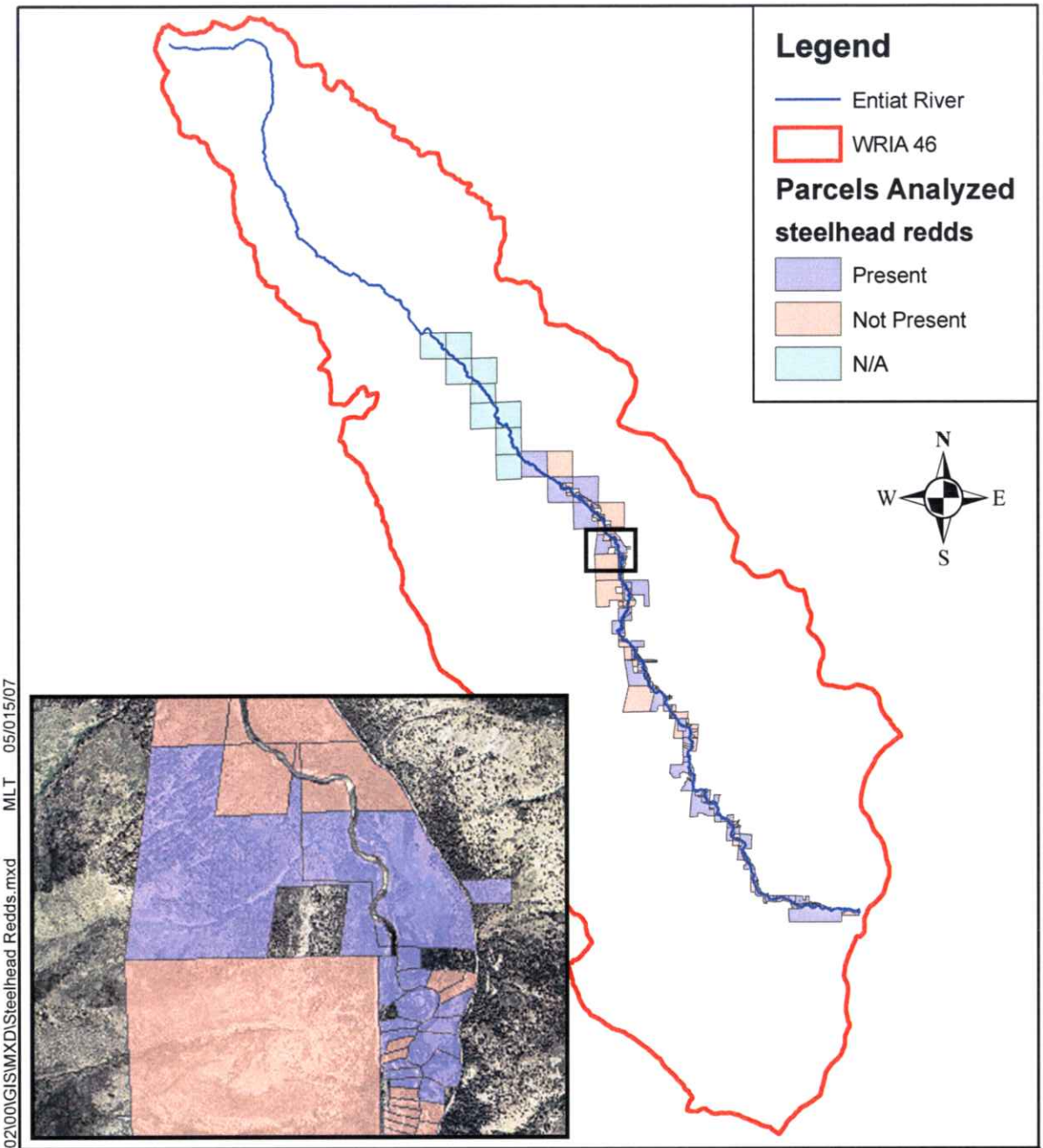
Bedrock Locations (WDNR 2002)

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 10

Office: BAM Path: P:\151505800200\GIS\MXD\Bedrock DNR.mxd MLT 05/015/07



Notes:

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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

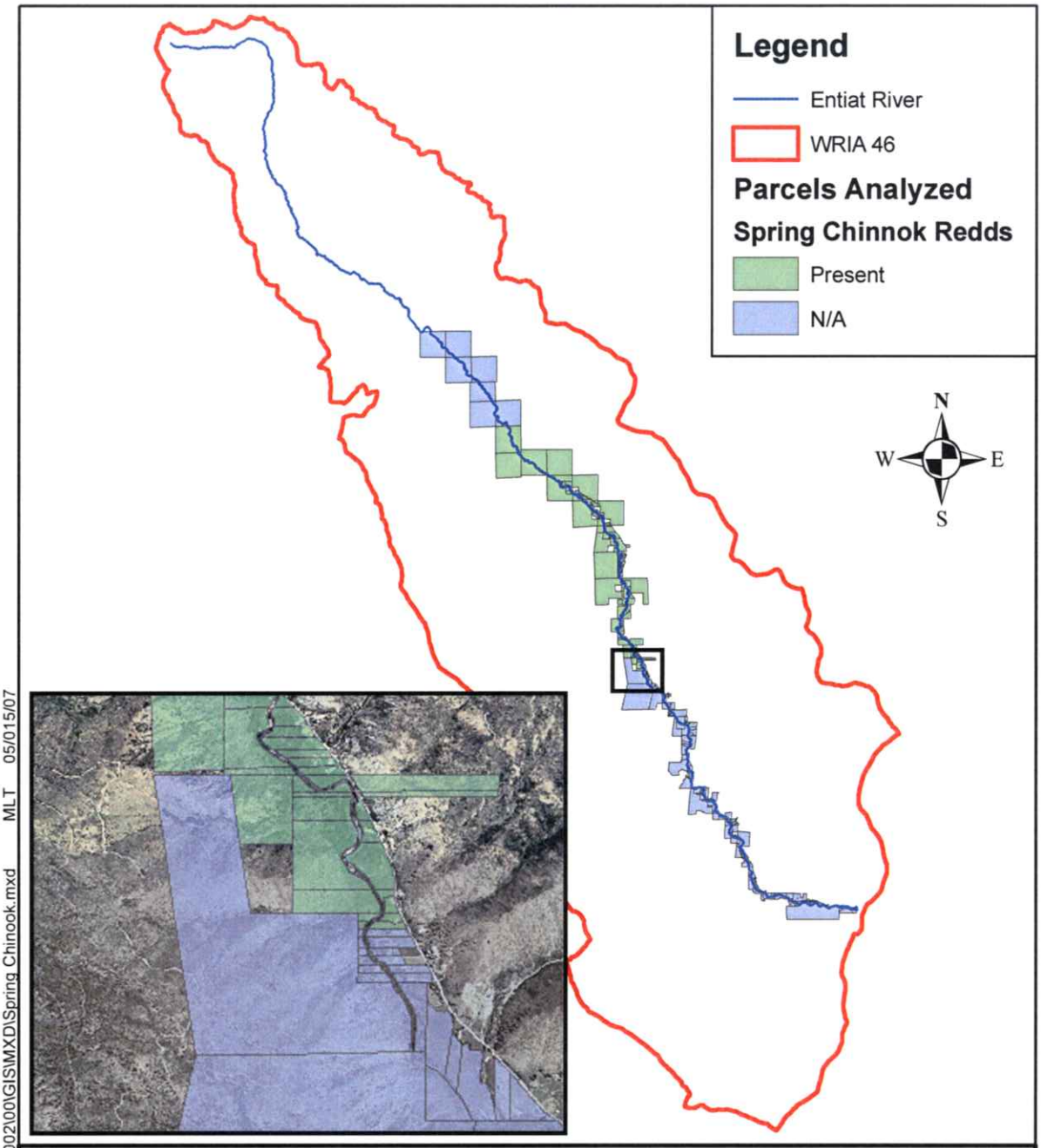
Steelhead Spawning Habitat

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 11

Office: BAM Path: P:\151505800200\GIS\MXD\Steelhead Redds.mxd MLT 05/015/07



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Data Sources: Aerial photograph from US Dept. of Agriculture. WRIA boundaries and waterbodies from Department of Ecology.

Lambert Conformal Conic, Washington State Plane North North American Datum 1983

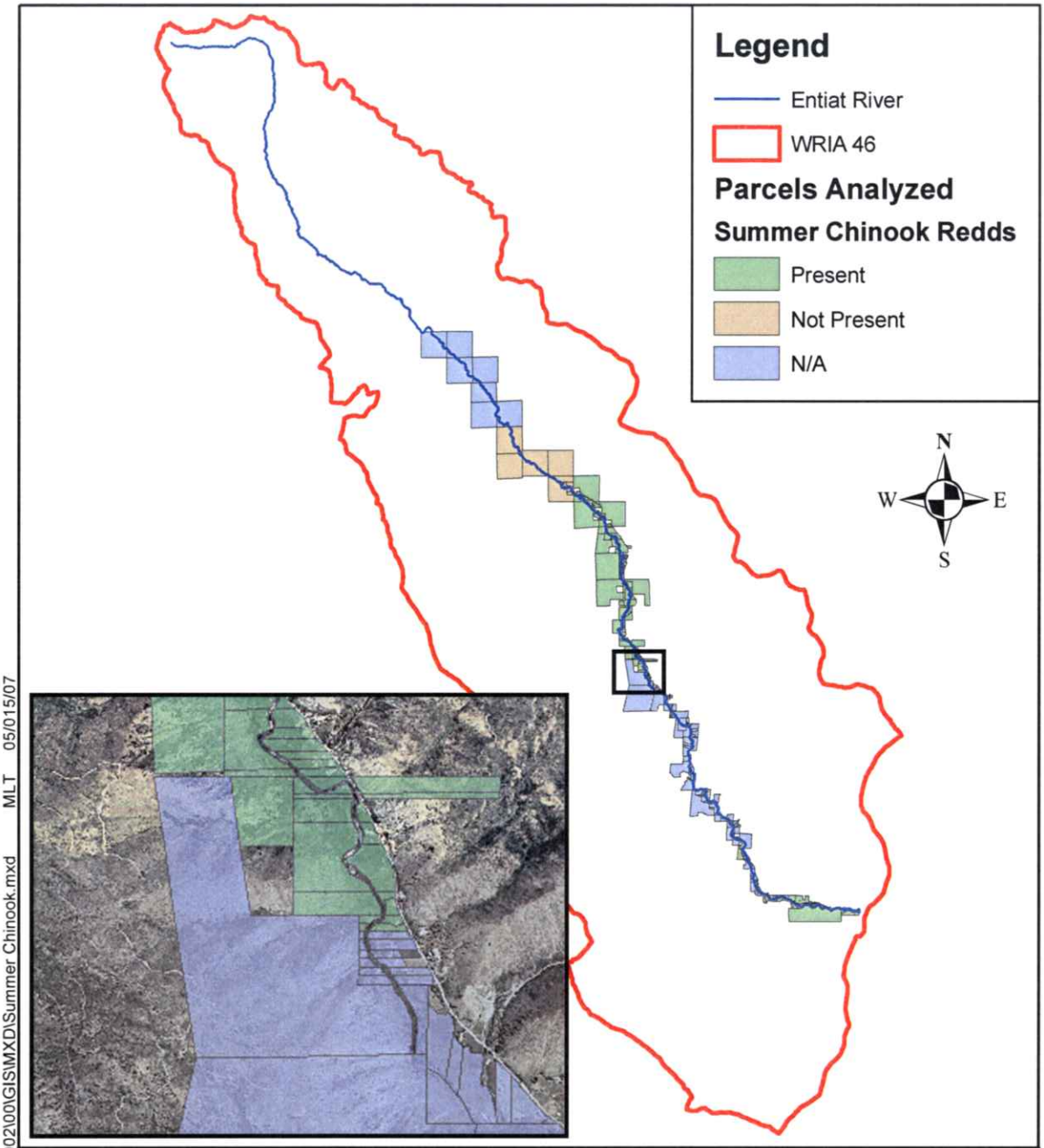
Spring Chinook Spawning Habitat

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 12

Office: BAM Path: P:\151\150580021\00\GIS\MXD\Spring Chinook.mxd MLT 05/015/07



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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

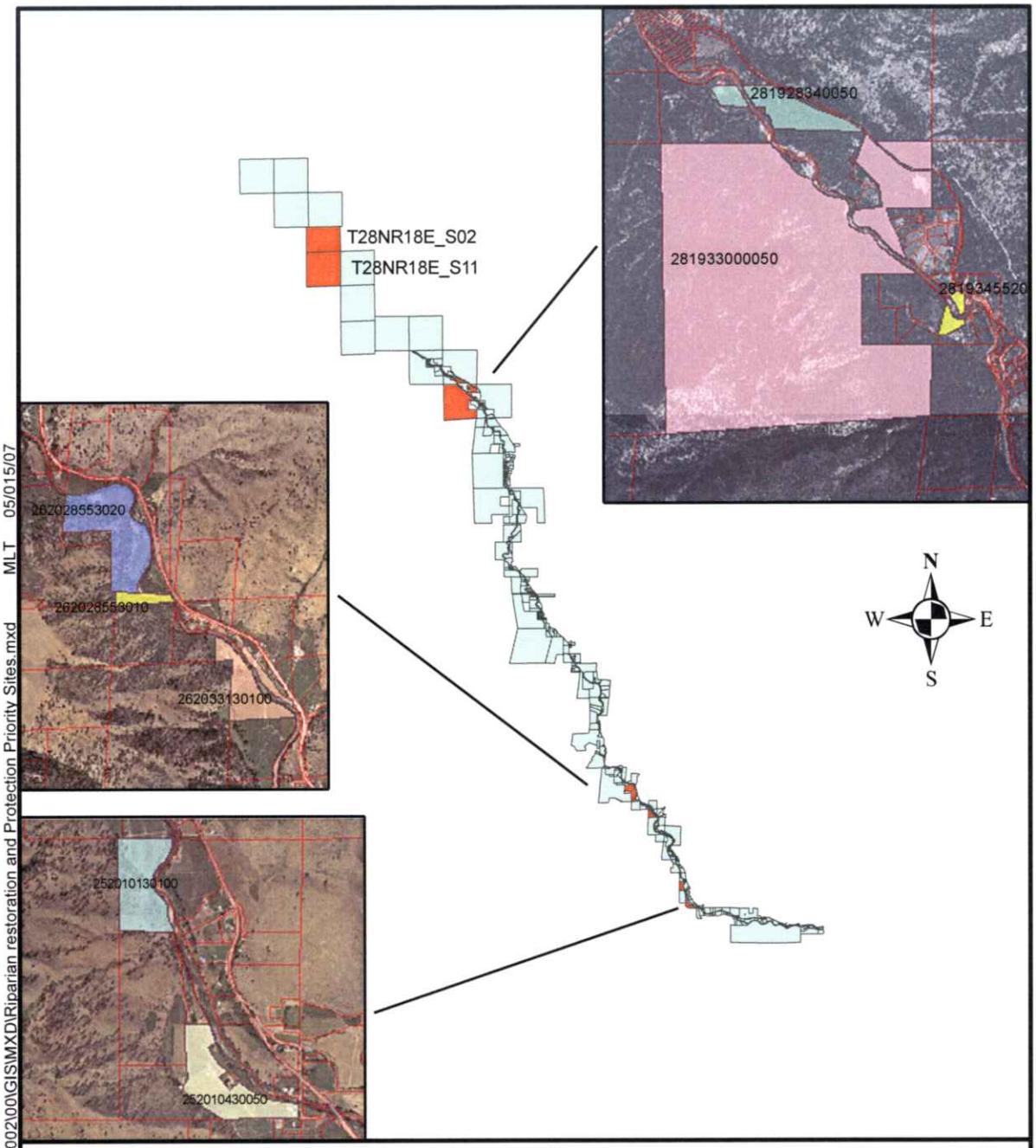
Summer Chinook Spawning Habitat

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 13

Office: BAM Path: P:\15\15058002\00\GIS\MXD\Summer Chinook.mxd MLT 05/015/07



Office: BAM Path: P:\15\1505800200\GIS\MXD\Riparian restoration and Protection Priority Sites.mxd MLT 05/015/07

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Lambert Conformal Conic, Washington State Plane North North American Datum 1983

Riparian Restoration and Protection Priority Sites

Entiat River Riparian Planting Restoration

GeoEngineers

Figure 14

GeoEngineers

Appendix A

Parcels Prioritized for Riparian Restoration – Based on Un-Weighted Criteria

Appendix A - Riparian Restoration Prioritization Matrix

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
1	320	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.25	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	0.25	4
2	145	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.25	1
3	150	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.25	1
4	268	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.25	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	1.25	5
5	390	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.25	7
6	392	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.25	7
7	157	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1
8	92	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3
9	329	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.50	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	1.50	4
10	271	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	1.50	5
11	144	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1
12	101	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.75	3
13	393	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
14	395	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
15	396	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
16	165	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1
17	58	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
18	96	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
19	100	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
20	339	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	2.00	3
21	364	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	2.00	3
22	278	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.00	4
23	229	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.00	5
24	233	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.00	5
25	234	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.00	5
26	172	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1
27	167	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	0.00	2.25	3
28	183	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	2.25	3
29	283	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.25	4
30	394	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	1.00	X	X	X	0.00	2.25	7
31	135	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	1
32	138	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	1
33	53	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
34	60	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
35	62	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
36	65	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
37	66	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
38	68	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
39	99	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
40	104	0	0	0	0	0	0	0	0	0	0.50	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
41	133	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	0.50	0.75	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	2.50	3
42	367	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	2.50	3
43	387	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	2.50	4
44	211	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
45	230	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
46	257	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	2.50	5
47	386	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	X	0.00	1.00	0.00	2.50	5
48	389	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	X	0.00	1.00	0.00	2.50	5
49	137	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	1
50	155	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	1
51	170	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	1
52	70	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
53	269	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	1.00	0.50	X	0.00	X	0.00	0.00	0.00	X	X	0.00	2.75	4
54	159	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1
55	47	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
56	54	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
57	77	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
58	79	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
59	80	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
60	88	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
61	90	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
62	91	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
63	93	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
64	94	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
65	107	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
66	108	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
67	192	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.00	3
68	194	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.50	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	0.00	3.00	3
69	334	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
70	343	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
71	369	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
72	376	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
73	377	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	1.00	X	1.00	0.00	X	1.00	0.00	X	0.00	0.00	3.00	3
74	313	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.00	4
75	325	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.00	4
76	331	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.00	4
77	270	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	0.25	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.00	5
78	391	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.5	1.00	X	0.00	1.00	X	X	X	0.00	3.00	7
79	152	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	1
80	168	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	1

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
81	173	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.25	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	1
82	78	0	0	0	0	0	0	0	0	0	0.25	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
83	85	0	0	0	0	0	0	0	0	0	0.25	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
84	86	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
85	102	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	3
86	103	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	3
87	130	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
88	131	0	0	0	0	0	0	0	0	0	0.25	X	1.00	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
89	185	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	3.25	3
90	187	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.25	3
91	188	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.25	3
92	379	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	3
93	316	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.25	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.25	4
94	216	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	1.00	X	X	0.00	0.00	X	X	0.00	3.25	5
95	232	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.25	5
96	240	0	0	0	0	0	0	1	0	0	0.00	0.00	0.25	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.25	5
97	147	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	1
98	171	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	1
99	1	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	3.50	3
100	2	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	3.50	3
101	61	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
102	67	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
103	73	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	1.00	0.00	0.00	0.00	0.00	3.50	3
104	95	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	0.50	0.5	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	3.50	3
105	97	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
106	98	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
107	129	0	0	0	0	0	0	1	0	0	0.25	X	0.25	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
108	132	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	0.50	0.5	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	3.50	3
109	336	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	3.50	3
110	345	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.50	3
111	362	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.50	3
112	274	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
113	276	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
114	288	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	0.50	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	3.50	4
115	321	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	0.25	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
116	330	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	0.50	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
117	388	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	3.50	4
118	223	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
119	228	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.50	5
120	235	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
121	237	0	0	0	0	0	0	1	0	0	1.00	0.00	0.00	0.50	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
122	255	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	3.50	5
123	256	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
124	261	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
125	153	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	1
126	158	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	1.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	1
127	69	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.75	0.00	X	0.00	1.00	0.00	0.00	0.00	0.00	3.75	3
128	72	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
129	74	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
130	76	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
131	81	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
132	82	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
133	83	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
134	84	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
135	87	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
136	109	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	3
137	126	0	0	0	0	0	0	1	0	0	0.25	X	0.50	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
138	193	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	0.50	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.75	3
139	273	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.75	4
140	282	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.75	4
141	304	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.75	4
142	248	0	0	0	0	0	0	1	0	0	0.25	0.00	0.50	0.50	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.75	5
143	258	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.75	5
144	266	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.75	5
145	146	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	0.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	1
146	156	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	4.00	1
147	169	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	1.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	4.00	1
148	55	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	4.00	3
149	56	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	4.00	3
150	57	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	4.00	3
151	63	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	3
152	75	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	3
153	111	0	0	0	0	0	0	1	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	4.00	3
154	344	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
155	347	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
156	349	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
157	277	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	4.00	4
158	287	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	0.50	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
159	310	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
160	324	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
161	351	0	0	0	0	0	0	0	0	0	X	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	4
162	226	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
163	227	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
164	251	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
165	253	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
166	175	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	0.25	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	1
167	105	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
168	106	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
169	134	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	0.50	0.5	1.00	X	1.00	0.00	1.00	0.00	0.00	0.00	4.25	3
170	177	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	0.50	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
171	178	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	0.50	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
172	180	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
173	181	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
174	182	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
175	184	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
176	196	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	4.25	3
177	197	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	1.00	0.00	X	X	0.00	4.25	3
178	301	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.25	3
179	302	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.25	3
180	354	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.25	3
181	363	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	1.00	0.00	X	1.00	0.00	X	0.00	0.00	4.25	3
182	373	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
183	374	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
184	375	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.25	3
185	284	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	4.25	4
186	327	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.25	4
187	151	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	1
188	160	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	1
189	164	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.50	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	1
190	36	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
191	43	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
192	64	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
193	89	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
194	179	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
195	207	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	0.00	X	X	0.00	4.50	3
196	342	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	4.50	3
197	356	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.50	3
198	365	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	0.50	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	4.50	3
199	190	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	1.00	4.50	4
200	272	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
201	275	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
202	281	0	0	0	0	0	0	1	0	0	0.00	0.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.50	4
203	295	0	0	0	0	0	0	1	0	0	0.00	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
204	305	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
205	306	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
206	315	0	0	0	0	0	0	0	0	0	1.00	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
207	322	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
208	218	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.50	5
209	239	0	0	0	0	0	0	1	0	0	1.00	0.00	0.50	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.50	5
210	254	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	4.50	5
211	139	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
212	174	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	0.25	1.00	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
213	110	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	4.75	3
214	378	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	1.00	1.00	0.00	0.00	0.00	4.75	3
215	380	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	4.75	3
216	247	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	0.50	1.00	X	0.00	X	X	1.00	1.00	X	X	0.00	4.75	5
217	259	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.75	5
218	140	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
219	143	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
220	148	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
221	149	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
222	5	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	5.00	3
223	6	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	5.00	3
224	7	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	5.00	3
225	8	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.00	3
226	34	0	0	0	0	0	0	0	0	0	0.50	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
227	35	0	0	0	0	0	0	0	0	0	0.50	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
228	37	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
229	38	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
230	39	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
231	40	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
232	41	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
233	42	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
234	44	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
235	45	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
236	46	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
237	48	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
238	49	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
239	50	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
240	51	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.00	3
241	59	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	5.00	3
242	71	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	1.00	1.00	0.00	0.00	0.00	5.00	3
243	203	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	5.00	3
244	333	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
245	335	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
246	340	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	5.00	3
247	341	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	5.00	3
248	346	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
249	348	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
250	352	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
251	357	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
252	359	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
253	360	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
254	361	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
255	9	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
256	10	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
257	11	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
258	189	0	0	0	0	0	0	0	0	0	X	1.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	5.00	4
259	238	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	0.50	1.00	X	0.00	X	0.00	0.00	1.00	X	X	0.00	5.00	4
260	291	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
261	297	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
262	299	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
263	328	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.00	4
264	384	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	5.00	4
265	244	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	5.00	5
266	245	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	5.00	5
267	249	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	5.00	5
268	279	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	1.00	5.00	5
269	136	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	0.25	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
270	142	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
271	161	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
272	162	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
273	176	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
274	113	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
275	115	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
276	116	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
277	118	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
278	122	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
279	123	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
280	125	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
281	127	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
282	128	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	3
283	186	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	1.00	X	X	0.00	5.25	3
284	195	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	1.00	X	X	0.00	5.25	3
285	332	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.25	3
286	358	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	5.25	3
287	303	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.25	4
288	307	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.25	4
289	319	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	0.25	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.25	4
290	225	0	0	0	0	0	0	0	0	0	1.00	1.00	0.25	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.25	5
291	154	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.50	1
292	13	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
293	14	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
294	15	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
295	24	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
296	27	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
297	28	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	3
298	30	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
299	31	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	5.50	3
300	32	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	3
301	33	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	3
302	114	0	0	0	0	0	0	1	0	0	1.00	X	0.50	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.50	3
303	124	0	0	0	0	0	0	1	0	0	1.00	X	0.50	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.50	3
304	200	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	0.50	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	5.50	3
305	201	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	5.50	3
306	204	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	5.50	3
307	215	0	0	0	0	0	0	1	0	0	0.50	0.00	0.25	1.00	1.00	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	5.50	3
308	353	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.50	3
309	371	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	1.00	X	0.00	0.00	X	1.00	1.00	X	0.00	0.00	5.50	3
310	3	0	0	0	0	0	0	0	0	0	X	X	1.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	4
311	22	0	0	0	0	0	0	0	0	0	X	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	4
312	191	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	5.50	4
313	285	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
314	286	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
315	293	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
316	296	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
317	308	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
318	312	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
319	314	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
320	317	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
321	318	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
322	260	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5
323	263	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5
324	264	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5
325	265	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5
326	267	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
327	262	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	1.00	5.50	6
328	112	0	0	0	0	0	0	1	0	0	1.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.75	3
329	199	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	1.00	0.25	0.5	0.00	X	0.00	1.00	1.00	X	X	0.00	5.75	3
330	221	0	0	0	1	0	0	1	0	0	0.25	0.00	1.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.75	5
331	166	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	6.00	1
332	52	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.00	3
333	117	0	0	0	0	0	0	1	0	0	1.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.00	3
334	119	0	0	0	0	0	0	1	0	0	1.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.00	3
335	120	0	0	0	0	0	0	1	0	0	1.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.00	3
336	121	0	0	0	0	0	0	1	0	0	1.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.00	3
337	202	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	0.5	0.00	X	0.00	1.00	1.00	X	X	0.00	6.00	3
338	298	0	0	0	0	0	0	1	0	0	1.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	6.00	3
339	337	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	1.00	0.00	X	0.00	0.00	6.00	3
340	338	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	1.00	0.00	X	0.00	0.00	6.00	3
341	350	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	6.00	3
342	355	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	6.00	3
343	366	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	6.00	3
344	368	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	6.00	3
345	370	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	6.00	3
346	280	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	6.00	4
347	292	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	6.00	4
348	323	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	6.00	4
349	326	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	6.00	4
350	382	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	6.00	4
351	383	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	1.00	6.00	4
352	385	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	1.00	6.00	4
353	219	0	0	0	0	0	0	1	0	0	1.00	1.00	0.50	0.50	1.00	X	0.00	X	X	1.00	0.00	X	X	0.00	6.00	5
354	224	0	0	0	0	0	0	1	0	0	1.00	0.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
355	231	0	0	0	0	0	0	1	0	0	1.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
356	236	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
357	242	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	1.00	6.00	5
358	250	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
359	252	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
360	290	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	1.00	6.00	5
361	243	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	1.00	6.00	6
362	163	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.25	1
363	4	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	1.00	6.50	3
364	12	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
365	16	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
366	17	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
367	18	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
368	19	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
369	20	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
370	21	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
371	23	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
372	25	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
373	26	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
374	29	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	6.50	3
375	206	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	0.5	1.00	X	0.00	0.00	0.00	X	X	0.00	6.50	3
376	372	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	1.00	X	0.00	1.00	X	1.00	1.00	X	0.00	0.00	6.50	3
377	309	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	6.50	4
378	311	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	6.50	4
379	213	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.50	5
380	214	0	0	0	0	0	0	1	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	X	X	0.00	0.00	X	X	0.00	6.50	5
381	222	0	0	0	1	0	0	1	0	0	0.25	0.00	0.25	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.50	5
382	241	0	0	0	0	0	0	1	0	0	1.00	1.00	0.50	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.50	5
383	141	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	6.75	1
384	220	0	0	0	0	0	0	1	0	0	0.50	1.00	0.25	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.75	5
385	289	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	1.00	7.00	4
386	381	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	1.00	0.00	X	X	1.00	7.00	4
387	205	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	7.00	5
388	208	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	7.00	5
389	210	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	7.00	5
390	246	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	0.00	X	X	1.00	1.00	X	X	0.00	7.00	5
391	198	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	1.00	1.00	X	X	0.00	7.25	3
392	209	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	X	X	1.00	1.00	X	X	0.00	7.50	5
393	212	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	1.00	X	1.00	X	X	1.00	1.00	X	X	1.00	7.50	6
394	294	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	1.00	8.00	4
395	217	0	0	0	0	0	0	1	0	0	1.00	1.00	0.25	1.00	1.00	X	0.00	X	X	1.00	1.00	X	X	1.00	8.25	5
396	300	0	0	0	1	0	0	1	0	0	X	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	1.00	8.50	5

GeoEngineers

Appendix B

Parcels Prioritized for Riparian Protection – Based on Un-Weighted Criteria

Appendix B - Riparian Protection Prioritization Matrix

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
1	329	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.50	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	0.50	4
2	271	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	0.50	5
3	278	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	1.00	4
4	268	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.25	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	1.00	5
5	320	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.25	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	1.25	4
6	390	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.25	7
7	392	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.25	7
8	144	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1
9	53	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3
10	60	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3
11	62	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3
12	68	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3
13	157	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1
14	58	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.75	3
15	70	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	1.75	3
16	269	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	1.00	0.50	X	0.00	X	0.00	0.00	0.00	X	X	0.00	1.75	4
17	393	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
18	395	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
19	396	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.75	0.00	X	0.00	0.00	X	X	X	0.00	1.75	7
20	54	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
21	93	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
22	107	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3
23	334	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	2.00	3
24	376	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	2.00	3
25	313	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.00	4
26	325	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.00	4
27	270	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	0.25	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	2.00	5
28	145	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1
29	150	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1
30	165	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1
31	104	0	0	0	0	0	0	0	0	0	0.25	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.25	3
32	130	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.25	3
33	316	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.25	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.25	4
34	211	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	2.25	5
35	229	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.25	5
36	230	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.25	5
37	233	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.25	5
38	234	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.25	5
39	394	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.75	0.00	X	0.00	1.00	X	X	X	0.00	2.25	7
40	172	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	1
41	1	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	2.50	3
42	2	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	2.50	3
43	61	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.50	3
44	67	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.50	3
45	73	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	1.00	0.00	0.00	0.00	0.00	2.50	3
46	92	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.50	3
47	167	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	0.00	2.50	3
48	183	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	2.50	3
49	274	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.50	4
50	276	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.50	4
51	321	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	0.25	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	2.50	4
52	387	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	0.00	2.50	4
53	235	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
54	237	0	0	0	0	0	0	1	0	0	0.00	0.00	0.00	0.50	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
55	256	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
56	261	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.50	5
57	386	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	X	0.00	1.00	0.00	2.50	5
58	389	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	X	0.00	1.00	0.00	2.50	5
59	135	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	1
60	47	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
61	72	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
62	74	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
63	76	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
64	81	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
65	82	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
66	83	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
67	84	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
68	87	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
69	88	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
70	90	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	2.75	3
71	91	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
72	94	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
73	101	0	0	0	0	0	0	0	0	0	1.00	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
74	108	0	0	0	0	0	0	0	0	0	0.25	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
75	109	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	2.75	3
76	133	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	0.50	0.75	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	2.75	3
77	194	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	0.50	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	0.00	2.75	3
78	273	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	2.75	4
79	258	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	2.75	5
80	266	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	2.75	5

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
81	137	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1
82	155	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1
83	55	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	3.00	3
84	56	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	3.00	3
85	57	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	1.00	3.00	3
86	63	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
87	75	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
88	86	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.00	3
89	96	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
90	100	0	0	0	0	0	0	0	0	0	1.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
91	102	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
92	103	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
93	111	0	0	0	0	0	0	1	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
94	339	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
95	344	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
96	347	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
97	349	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
98	364	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	3.00	3
99	379	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.00	3
100	277	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.00	4
101	324	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	3.00	4
102	226	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.00	5
103	227	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.00	5
104	251	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.00	5
105	253	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.00	5
106	391	0	0	0	0	0	0	0	0	0	X	X	0.00	X	0.50	0.5	1.00	X	0.00	1.00	X	X	X	0.00	3.00	7
107	159	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.25	1
108	77	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
109	79	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
110	80	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.25	3
111	302	0	0	0	0	0	0	0	0	0	0.00	0.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.25	3
112	336	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	3.25	3
113	345	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.25	3
114	362	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	3.25	3
115	283	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.25	4
116	284	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.25	4
117	228	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.25	5
118	138	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	1
119	152	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	0.25	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	1
120	158	0	0	0	0	0	0	0	0	0	0.25	0.00	0.50	1.00	1.00	0.75	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	1
121	168	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	1
122	173	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.25	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	1
123	36	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	3.50	3
124	43	0	0	0	0	0	0	0	0	0	0.00	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	3.50	3
125	64	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
126	65	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3
127	66	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3
128	78	0	0	0	0	0	0	0	0	0	0.50	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
129	85	0	0	0	0	0	0	0	0	0	0.50	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
130	89	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
131	99	0	0	0	0	0	0	0	0	0	1.00	X	0.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3
132	131	0	0	0	0	0	0	0	0	0	0.50	X	1.00	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.50	3
133	185	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	3.50	3
134	187	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.50	3
135	188	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	3.50	3
136	207	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	0.00	X	X	0.00	3.50	3
137	365	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	0.50	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	3.50	3
138	367	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	3.50	3
139	272	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
140	275	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	0.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
141	305	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
142	315	0	0	0	0	0	0	0	0	0	0.00	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
143	322	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	3.50	4
144	388	0	0	0	0	0	0	0	0	0	X	X	0.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	3.50	4
145	216	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	1.00	X	X	0.00	0.00	X	X	0.00	3.50	5
146	218	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
147	232	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
148	239	0	0	0	0	0	0	1	0	0	0.00	0.00	0.50	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.50	5
149	254	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	3.50	5
150	257	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	3.50	5
151	147	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	1
152	156	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	1
153	170	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	1
154	171	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	0.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	1
155	95	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	0.50	0.5	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	3.75	3
156	110	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	3.75	3
157	129	0	0	0	0	0	0	1	0	0	0.50	X	0.25	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	3.75	3
158	132	0	0	0	0	0	0	0	0	0	0.50	X	0.25	X	0.50	0.5	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	3.75	3
159	378	0	0	0	0	0	0	0	0	0	0.00	X	0.25	X	1.00	0.5	0.00	X	0.00	1.00	1.00	0.00	0.00	0.00	3.75	3
160	223	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	3.75	5
161	259	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	3.75	5
162	153	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	0.25	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	1

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
163	5	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	4.00	3
164	6	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	4.00	3
165	7	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	0.00	4.00	3
166	8	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	4.00	3
167	37	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
168	38	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
169	39	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
170	40	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
171	41	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
172	42	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
173	44	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
174	45	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
175	46	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
176	48	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
177	49	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
178	50	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
179	51	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.00	3
180	59	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	4.00	3
181	71	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	1.00	1.00	0.00	0.00	0.00	4.00	3
182	105	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	3
183	106	0	0	0	0	0	0	0	0	0	0.25	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	3
184	126	0	0	0	0	0	0	1	0	0	0.50	X	0.50	X	0.50	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.00	3
185	177	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	0.50	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.00	3
186	178	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	0.50	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.00	3
187	192	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	4.00	3
188	193	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	0.50	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	4.00	3
189	203	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	4.00	3
190	333	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
191	335	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
192	340	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	4.00	3
193	341	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	4.00	3
194	343	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
195	346	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
196	348	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
197	352	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
198	357	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
199	359	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
200	360	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
201	361	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
202	369	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	3
203	377	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	0.00	1.00	X	1.00	0.00	X	1.00	0.00	X	0.00	0.00	4.00	3
204	238	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	0.50	1.00	X	0.00	X	0.00	0.00	1.00	X	X	0.00	4.00	4
205	282	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.00	4
206	291	0	0	0	0	0	0	0	0	0	0.00	0.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
207	297	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
208	299	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.00	4
209	304	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	0.50	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.00	4
210	328	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.00	4
211	331	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.00	4
212	351	0	0	0	0	0	0	0	0	0	X	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.00	4
213	244	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
214	245	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
215	248	0	0	0	0	0	0	1	0	0	0.50	0.00	0.50	0.50	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	4.00	5
216	249	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.00	5
217	146	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	0.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	1
218	160	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	1
219	113	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
220	115	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
221	116	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
222	118	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
223	122	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
224	123	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
225	125	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
226	127	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
227	128	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.25	3
228	342	0	0	0	0	0	0	0	0	0	0.25	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	4.25	3
229	356	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.25	3
230	303	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.25	4
231	307	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.25	4
232	225	0	0	0	0	0	0	0	0	0	0.00	1.00	0.25	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	4.25	5
233	240	0	0	0	0	0	0	1	0	0	1.00	0.00	0.25	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	0.00	4.25	5
234	175	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	0.25	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	1
235	13	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
236	14	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
237	15	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
238	24	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
239	27	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
240	28	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	4.50	3
241	30	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
242	31	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.50	3
243	32	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	4.50	3
244	33	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	0.00	0.00	1.00	1.00	4.50	3

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
245	97	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
246	98	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
247	114	0	0	0	0	0	0	1	0	0	0.00	X	0.50	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
248	124	0	0	0	0	0	0	1	0	0	0.00	X	0.50	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.50	3
249	134	0	0	0	0	0	0	0	0	0	0.50	X	0.00	X	0.50	0.5	1.00	X	1.00	0.00	1.00	0.00	0.00	0.00	4.50	3
250	180	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
251	181	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
252	182	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
253	184	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
254	196	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	4.50	3
255	197	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	1.00	0.00	X	X	0.00	4.50	3
256	200	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	0.50	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
257	201	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
258	204	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	1.00	0.5	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
259	301	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.50	3
260	354	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	4.50	3
261	363	0	0	0	0	0	0	0	0	0	0.50	0.00	0.00	1.00	1.00	X	1.00	0.00	X	1.00	0.00	X	0.00	0.00	4.50	3
262	373	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
263	374	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
264	375	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.50	3
265	190	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	0.25	0.75	0.00	X	0.00	0.00	0.00	X	X	1.00	4.50	4
266	285	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.50	4
267	286	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.50	4
268	288	0	0	0	0	0	0	0	0	0	1.00	0.00	1.00	0.50	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	4.50	4
269	312	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
270	314	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
271	317	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
272	327	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
273	330	0	0	0	0	0	0	0	0	0	1.00	1.00	1.00	0.50	0.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	4.50	4
274	255	0	0	0	0	0	0	0	0	0	1.00	1.00	0.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	4.50	5
275	260	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.50	5
276	263	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.50	5
277	264	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.50	5
278	265	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.50	5
279	267	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	0.00	4.50	5
280	140	0	0	0	0	0	0	0	0	0	0.25	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
281	143	0	0	0	0	0	0	0	0	0	0.25	1.00	0.25	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
282	151	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
283	164	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	0.50	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	1
284	34	0	0	0	0	0	0	0	0	0	0.25	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.75	3
285	35	0	0	0	0	0	0	0	0	0	0.25	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	0.00	4.75	3
286	69	0	0	0	0	0	0	0	0	0	1.00	X	1.00	X	1.00	0.75	0.00	X	0.00	1.00	0.00	0.00	0.00	0.00	4.75	3
287	112	0	0	0	0	0	0	1	0	0	0.00	X	0.25	X	1.00	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	4.75	3
288	179	0	0	0	0	0	0	0	0	0	0.50	1.00	0.25	1.00	0.25	0.75	0.00	X	0.00	0.00	1.00	X	X	0.00	4.75	3
289	199	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	1.00	0.25	0.5	0.00	X	0.00	1.00	1.00	X	X	0.00	4.75	3
290	139	0	0	0	0	0	0	0	0	0	0.50	0.00	0.25	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
291	142	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
292	161	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
293	162	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	0.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
294	169	0	0	0	0	0	0	0	0	0	1.00	0.00	0.25	1.00	1.00	0.75	1.00	X	0.00	0.00	0.00	0.00	0.00	0.00	5.00	1
295	174	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	0.25	1.00	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
296	176	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	1
297	52	0	0	0	0	0	0	0	0	0	0.00	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	3
298	117	0	0	0	0	0	0	1	0	0	0.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	3
299	119	0	0	0	0	0	0	1	0	0	0.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	3
300	120	0	0	0	0	0	0	1	0	0	0.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	3
301	121	0	0	0	0	0	0	1	0	0	0.00	X	1.00	X	0.50	0.5	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.00	3
302	202	0	0	0	0	0	0	0	0	0	0.00	1.00	0.00	0.50	1.00	0.5	0.00	X	0.00	1.00	1.00	X	X	0.00	5.00	3
303	298	0	0	0	0	0	0	1	0	0	0.00	1.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
304	337	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	1.00	0.00	X	0.00	0.00	5.00	3
305	338	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	1.00	0.00	X	0.00	0.00	5.00	3
306	350	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
307	355	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.00	3
308	366	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	5.00	3
309	368	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	5.00	3
310	370	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	0.00	5.00	3
311	380	0	0	0	0	0	0	0	0	0	0.50	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	5.00	3
312	9	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
313	10	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
314	11	0	0	0	0	0	0	0	0	0	X	X	0.50	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.00	4
315	189	0	0	0	0	0	0	0	0	0	X	1.00	0.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	5.00	4
316	280	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
317	287	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	0.50	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
318	292	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
319	310	0	0	0	0	0	0	0	0	0	1.00	0.00	0.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
320	319	0	0	0	0	0	0	0	0	0	0.25	1.00	0.50	0.25	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
321	323	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
322	326	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	0.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.00	4
323	384	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	0.00	1.00	5.00	4
324	219	0	0	0	0	0	0	1	0	0	0.00	1.00	0.50	0.50	1.00	X	0.00	X	X	1.00	0.00	X	X	0.00	5.00	5
325	224	0	0	0	0	0	0	1	0	0	0.00	0.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.00	5
326	231	0	0	0	0	0	0	1	0	0	0.00	1.00	0.50	1.00	0.50	X	0.00	X	X	0.00	1.00	X	X	0.00	5.00	5

Rank	ID	Topographic Shading Analysis									Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Potential UpWelling	Ecology Bedrock	NRCS Bedrock	Wenatchee Nat. Forest Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
		July 15, 10:00	July 15 12:00	July 15 14:00	Aug 15 10:00	Aug 15 12:00	Aug 15 14:00	Sep 15 10:00	Aep 15 12:00	Sep 15 14:00																
327	236	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.00	5
328	242	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	0.00	X	X	1.00	5.00	5
329	247	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	0.50	1.00	X	0.00	X	X	1.00	1.00	X	X	0.00	5.00	5
330	250	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.00	5
331	252	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.00	5
332	279	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	0.00	X	X	1.00	5.00	5
333	148	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
334	149	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.25	1
335	215	0	0	0	0	0	0	1	0	0	0.25	0.00	0.25	1.00	1.00	0.75	1.00	X	0.00	0.00	0.00	X	X	0.00	5.25	3
336	353	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.25	3
337	371	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	1.00	X	0.00	0.00	X	1.00	1.00	X	0.00	0.00	5.25	3
338	293	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.25	4
339	296	0	0	0	0	0	0	0	0	0	0.25	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.25	4
340	318	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.25	4
341	136	0	0	0	0	0	0	0	0	0	0.50	1.00	0.50	0.25	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.50	1
342	4	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	3
343	12	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
344	16	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
345	17	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
346	18	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
347	19	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
348	20	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
349	21	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
350	23	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
351	25	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
352	26	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
353	29	0	0	0	0	0	0	0	0	0	0.00	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	3
354	186	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	1.00	X	X	0.00	5.50	3
355	195	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	1.00	X	X	0.00	5.50	3
356	206	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	0.5	1.00	X	0.00	0.00	0.00	X	X	0.00	5.50	3
357	332	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	0.00	5.50	3
358	358	0	0	0	0	0	0	0	0	0	0.50	0.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	0.00	0.00	5.50	3
359	3	0	0	0	0	0	0	0	0	0	X	X	1.00	X	1.00	0.5	1.00	X	0.00	0.00	0.00	0.00	1.00	1.00	5.50	4
360	22	0	0	0	0	0	0	0	0	0	X	X	1.00	X	1.00	0.5	0.00	X	0.00	0.00	1.00	0.00	1.00	1.00	5.50	4
361	191	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	5.50	4
362	281	0	0	0	0	0	0	1	0	0	1.00	0.00	0.50	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
363	295	0	0	0	0	0	0	1	0	0	1.00	0.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
364	306	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	X	0.00	5.50	4
365	309	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
366	311	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	5.50	4
367	213	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	5.50	5
368	214	0	0	0	0	0	0	1	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	X	X	0.00	0.00	X	X	0.00	5.50	5
369	241	0	0	0	0	0	0	1	0	0	0.00	1.00	0.50	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	5.50	5
370	262	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.50	X	1.00	X	X	0.00	0.00	X	X	1.00	5.50	6
371	154	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	0.50	0.75	1.00	X	0.00	0.00	1.00	0.00	0.00	0.00	5.75	1
372	163	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	0.00	6.00	1
373	289	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	1.00	6.00	4
374	382	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	0.00	0.00	X	X	1.00	6.00	4
375	383	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	0.00	X	0.00	1.00	6.00	4
376	385	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	0.00	1.00	6.00	4
377	205	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.00	5
378	208	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.00	5
379	210	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.00	5
380	221	0	0	0	1	0	0	1	0	0	0.50	0.00	1.00	0.50	1.00	X	0.00	X	X	0.00	1.00	X	X	0.00	6.00	5
381	246	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	0.00	X	X	1.00	1.00	X	X	0.00	6.00	5
382	290	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	0.00	X	0.00	1.00	X	X	1.00	6.00	5
383	243	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	1.00	X	0.00	X	X	0.00	1.00	X	X	1.00	6.00	6
384	166	0	0	0	0	0	0	0	0	0	0.50	1.00	0.00	1.00	1.00	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	6.25	1
385	372	0	0	0	0	0	0	0	0	0	0.25	1.00	0.00	1.00	1.00	X	0.00	1.00	X	1.00	1.00	X	0.00	0.00	6.25	3
386	141	0	0	0	0	0	0	0	0	0	0.25	1.00	1.00	1.00	0.50	0.75	0.00	X	0.00	0.00	1.00	0.00	0.00	1.00	6.50	1
387	308	0	0	0	0	0	0	0	0	0	1.00	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	0.00	6.50	4
388	209	0	0	0	0	0	0	0	0	0	0.00	1.00	0.50	1.00	1.00	X	1.00	X	X	1.00	1.00	X	X	0.00	6.50	5
389	220	0	0	0	0	0	0	1	0	0	0.25	1.00	0.25	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.50	5
390	222	0	0	0	1	0	0	1	0	0	0.50	0.00	0.25	1.00	1.00	X	1.00	X	X	0.00	1.00	X	X	0.00	6.75	5
391	294	0	0	0	0	0	0	0	0	0	0.00	1.00	1.00	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	1.00	7.00	4
392	381	0	0	0	0	0	0	0	0	0	X	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	1.00	0.00	X	X	1.00	7.00	4
393	217	0	0	0	0	0	0	1	0	0	0.00	1.00	0.25	1.00	1.00	X	0.00	X	X	1.00	1.00	X	X	1.00	7.25	5
394	198	0	0	0	0	0	0	0	0	0	0.50	1.00	1.00	1.00	0.25	0.75	1.00	X	0.00	1.00	1.00	X	X	0.00	7.50	3
395	212	0	0	0	0	0	0	0	0	0	X	1.00	0.50	1.00	1.00	X	1.00	X	X	1.00	1.00	X	X	1.00	7.50	6
396	300	0	0	0	1	0	0	1	0	0	X	1.00	0.50	1.00	1.00	X	1.00	0.00	X	0.00	1.00	X	X	1.00	8.50	5

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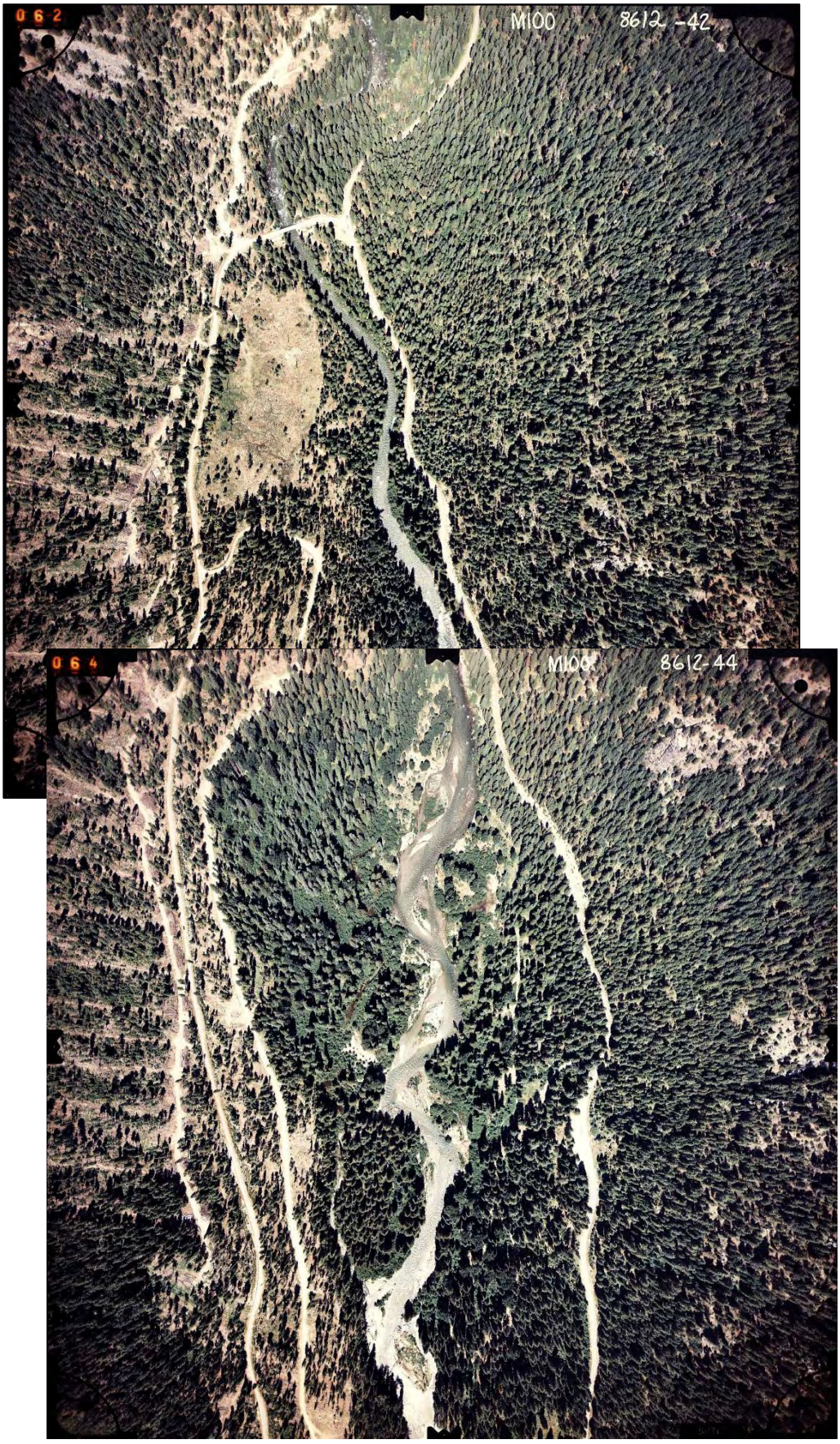
Appendix C
USFS Parcels Prioritized for Protection and Restoration of Riparian Vegetation



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GeoEngineers
Earth Science + Technology

USFS Air Photographs – 1986, Slides 62 and 64
Entiat River near Silver falls Campground

FIGURE C-1

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GeoEngineers
Earth Science + Technology

USFS Air Photographs – 1986, Slides 64 and 66
Entiat River near Silver falls Campground

FIGURE C-2

GeoEngineers
Earth Science + Technology

USFS Air Photographs – 1986, Slides 69 and 72
Entiat River near Silver falls Campground

FIGURE C-3

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Appendix D

Parcels Prioritized for Riparian Restoration – Based on Weighted Criteria

Appendix D - Riparian Restoration Prioritization Matrix

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
1	1	0	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	X	X	0.00	0.25	2
2	52	0	0.00	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	2.25	2
3	2	0	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0
4	3	0	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0
5	26	0	0.00	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	1.75	0
6	57	0	0.00	0.00	0.00	1.00	0.50	0.00	0.00	1.00	X	X	0.00	2.50	2
7	8	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
8	27	0	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	X	0.00	0.00	2.00	1
9	28	0	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	2.00	1
10	39	0	0.00	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.00	2
11	46	0	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.00	0
12	54	0	0.00	1.00	0.00	0.50	1.00	0.00	0.00	0.00	X	0.00	0.00	2.50	1
13	90	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
14	91	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
15	93	0	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	X	0.00	0.00	3.00	1
16	140	0	0.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	3.50	2
17	179	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	4.00	2
18	14	0	0.00	X	0.25	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	2
19	49	0	0.00	0.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	2.25	2
20	114	1	0.00	0.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.25	2
21	127	0	0.00	0.00	0.25	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.25	0
22	19	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
23	20	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
24	178	0	0.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
25	211	1	0.00	0.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
26	212	1	0.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
27	214	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
28	322	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
29	96	0	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	3.00	2
30	135	0	0.00	1.00	1.00	0.50	0.00	1.00	0.00	0.00	X	X	0.00	3.50	2
31	36	0	0.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
32	37	0	0.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
33	103	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
34	104	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
35	109	0	0.00	X	1.00	X	1.00	0.00	1.00	0.00	0.00	0.00	0.00	3.00	2
36	133	0	0.00	0.00	1.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	3.50	2
37	22	0	0.25	0.00	0.00	1.00	0.25	0.00	0.00	0.00	X	X	0.00	1.50	2
38	23	0	0.25	0.00	0.00	0.00	0.25	0.00	0.00	1.00	X	X	0.00	1.50	2
39	74	0	0.25	0.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	2.50	2
40	75	0	0.25	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	2.50	2
41	76	0	0.25	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	2.50	2
42	152	0	0.25	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
43	153	0	0.25	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
44	154	0	0.25	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
45	6	0	0.25	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0
46	7	0	0.25	X	0.00	X	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.75	2
47	25	0	0.25	1.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0
48	44	0	0.25	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.00	0
49	45	0	0.25	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.00	0
50	86	0	0.25	1.00	0.00	0.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.75	0
51	88	0	0.25	X	0.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	2.75	2
52	107	0	0.25	0.00	0.00	0.25	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.00	0
53	169	0	0.25	1.00	0.00	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.75	0
54	264	0	0.25	1.00	0.00	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	0
55	15	0	0.25	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0
56	51	0	0.25	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0
57	73	0	0.25	0.00	0.00	0.25	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	0
58	112	0	0.25	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	3.25	2
59	162	0	0.25	1.00	0.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	3.75	2
60	171	0	0.25	1.00	0.00	0.50	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.75	0
61	193	0	0.25	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.25	1
62	196	0	0.25	0.00	0.00	1.00	1.00	1.00	1.00	0.00	X	0.00	0.00	4.25	1
63	314	0	0.25	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	5.25	0
64	172	0	0.25	1.00	0.25	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
65	30	0	0.25	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.00	2
66	31	0	0.25	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.00	2
67	32	0	0.25	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.00	2
68	47	0	0.25	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.00	2
69	48	0	0.25	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.00	2
70	105	1	0.25	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
71	191	0	0.25	0.00	0.25	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.00	0
72	21	0	0.25	0.00	0.25	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0
73	60	0	0.25	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
74	61	0	0.25	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
75	62	0	0.25	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
76	72	0	0.25	0.00	0.25	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	0
77	136	0	0.25	1.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.50	2
78	341	1	0.25	0.00	0.25	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
79	71	0	0.25	0.00	0.50	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.50	0
80	113	0	0.25	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.25	2
81	124	1	0.25	X	0.50	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
82	125	0	0.25	1.00	0.50	0.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.25	0
83	164	1	0.25	0.00	0.50	0.50	0.50	0.00	0.00	1.00	X	X	0.00	3.75	2
84	203	0	0.25	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
85	204	0	0.25	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
86	245	0	0.25	1.00	0.50	0.25	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.50	0
87	78	0	0.25	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
88	79	0	0.25	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
89	87	0	0.25	0.00	0.50	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.75	0
90	192	0	0.25	0.00	0.50	0.25	1.00	1.00	0.00	1.00	0.00	0.00	0.00	4.00	0
91	252	0	0.25	0.00	0.50	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	4.75	1
92	198	0	0.25	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	4.25	2
93	110	0	0.25	0.00	1.00	0.50	0.25	1.00	0.00	0.00	X	X	0.00	3.00	2
94	155	0	0.25	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
95	156	0	0.25	0.00	1.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	3.50	2
96	157	0	0.25	0.00	1.00	1.00	0.25	0.00	1.00	0.00	X	X	0.00	3.50	2
97	158	0	0.25	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
98	159	0	0.25	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
99	160	0	0.25	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
100	250	0	0.25	0.00	1.00	1.00	0.25	1.00	0.00	1.00	X	X	0.00	4.50	2
101	251	0	0.25	0.00	1.00	1.00	0.25	1.00	0.00	1.00	X	X	0.00	4.50	2
102	385	0	0.25	1.00	1.00	1.00	0.25	1.00	1.00	1.00	X	X	0.00	6.50	2
103	84	0	0.25	X	1.00	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
104	149	0	0.25	0.00	1.00	0.25	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.50	0
105	163	0	0.25	0.00	1.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	3.75	2
106	195	0	0.25	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.25	1
107	253	0	0.25	0.00	1.00	0.50	1.00	0.00	1.00	1.00	X	X	0.00	4.75	2
108	267	1	0.25	0.00	1.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.75	2
109	306	0	0.25	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.25	1
110	307	0	0.25	0.00	1.00	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	5.25	1
111	53	0	0.50	1.00	0.00	0.50	0.25	0.00	0.00	0.00	X	X	0.00	2.25	2
112	9	0	0.50	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0
113	13	0	0.50	0.00	0.00	0.25	0.50	0.00	0.00	0.00	X	X	0.00	1.25	2
114	18	0	0.50	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
115	55	0	0.50	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	2.50	2
116	58	0	0.50	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
117	63	0	0.50	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
118	64	0	0.50	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
119	65	0	0.50	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
120	67	0	0.50	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
121	69	0	0.50	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
122	128	0	0.50	0.00	0.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	3.50	1
123	129	0	0.50	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.50	1
124	130	0	0.50	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.50	1
125	206	0	0.50	0.00	0.00	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	4.50	1
126	317	0	0.50	1.00	0.00	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	5.50	1
127	340	0	0.50	1.00	0.00	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	5.50	1
128	150	0	0.50	1.00	0.25	0.50	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2
129	151	0	0.50	1.00	0.25	0.50	0.25	0.00	0.00	1.00	X	X	0.00	3.50	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
130	126	0	0.50	0.00	0.25	1.00	0.50	1.00	0.00	0.00	0.00	0.00	0.00	3.25	0
131	201	0	0.50	0.00	0.25	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.25	0
132	202	0	0.50	1.00	0.25	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
133	80	0	0.50	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
134	81	0	0.50	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.75	2
135	82	0	0.50	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.75	2
136	85	0	0.50	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.75	2
137	167	0	0.50	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
138	168	0	0.50	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
139	170	0	0.50	1.00	0.25	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.75	0
140	265	1	0.50	0.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.75	2
141	386	1	0.50	1.00	0.25	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.75	2
142	56	0	0.50	0.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
143	137	0	0.50	0.00	0.50	1.00	0.50	0.00	0.00	1.00	X	X	0.00	3.50	2
144	246	0	0.50	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
145	40	0	0.50	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
146	108	0	0.50	0.00	0.50	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0
147	310	0	0.50	1.00	0.50	0.25	1.00	1.00	0.00	1.00	X	X	0.00	5.25	2
148	378	0	0.50	1.00	1.00	1.00	0.50	0.00	0.00	1.00	0.00	0.00	1.00	6.00	0
149	207	0	0.50	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.50	1
150	224	0	0.50	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
151	225	0	0.50	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
152	247	0	0.50	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
153	248	0	0.50	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
154	249	0	0.50	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
155	316	0	0.50	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.50	1
156	320	0	0.50	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.50	2
157	321	0	0.50	0.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
158	326	0	0.50	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
159	339	0	0.50	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	5.50	0
160	16	0	1.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	X	X	0.00	1.50	2
161	89	0	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	X	0.00	0.00	3.00	1
162	95	0	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	X	X	0.00	3.00	2
163	180	0	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	X	X	0.00	4.00	2
164	313	0	1.00	1.00	0.00	1.00	0.25	0.00	1.00	1.00	X	X	0.00	5.25	2
165	17	0	1.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	X	X	0.00	1.50	2
166	131	0	1.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
167	138	0	1.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
168	141	0	1.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
169	142	0	1.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
170	29	0	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	X	X	0.00	2.00	2
171	33	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
172	34	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
173	35	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
174	38	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
175	92	0	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	3.00	1
176	94	0	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.00	2
177	98	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00	2
178	99	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00	2
179	100	0	1.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
180	101	0	1.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
181	102	0	1.00	X	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	0.00	3.00	2
182	111	0	1.00	1.00	0.00	0.25	1.00	0.00	0.00	0.00	X	X	0.00	3.25	2
183	139	1	1.00	0.00	0.00	0.50	1.00	0.00	0.00	0.00	X	X	0.00	3.50	2
184	174	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
185	175	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
186	176	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
187	184	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
188	186	0	1.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
189	187	0	1.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
190	190	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
191	213	0	1.00	1.00	0.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
192	219	0	1.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
193	241	0	1.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
194	270	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	5.00	1
195	271	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	5.00	1
196	272	0	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
197	273	0	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
198	274	0	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
199	275	0	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
200	276	0	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
201	281	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
202	282	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
203	302	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
204	303	0	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
205	338	0	1.00	1.00	0.00	0.50	1.00	0.00	1.00	1.00	X	X	0.00	5.50	2
206	342	1	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	6.00	1
207	134	0	1.00	1.00	0.25	0.25	0.00	1.00	0.00	0.00	X	X	0.00	3.50	2
208	77	0	1.00	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.75	2
209	83	0	1.00	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
210	97	0	1.00	0.00	0.25	0.25	0.50	0.00	0.00	1.00	X	X	0.00	3.00	2
211	161	0	1.00	1.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.75	2
212	165	0	1.00	0.00	0.25	1.00	0.50	0.00	0.00	1.00	X	X	0.00	3.75	2
213	166	0	1.00	1.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.75	2
214	254	0	1.00	1.00	0.25	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.75	2
215	255	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
216	256	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
217	257	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
218	258	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
219	259	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
220	260	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
221	261	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
222	262	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
223	263	1	1.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	2
224	50	0	1.00	X	0.25	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	2
225	115	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
226	116	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
227	117	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
228	118	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
229	119	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
230	120	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
231	121	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
232	122	0	1.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
233	123	0	1.00	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.25	2
234	194	0	1.00	0.00	0.25	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.25	1
235	197	0	1.00	1.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.25	2
236	199	1	1.00	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	4.25	2
237	200	0	1.00	X	0.25	X	1.00	0.00	1.00	1.00	0.00	0.00	0.00	4.25	2
238	308	0	1.00	1.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.25	2
239	309	0	1.00	1.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.25	2
240	311	0	1.00	1.00	0.25	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.25	2
241	312	1	1.00	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	5.25	2
242	396	1	1.00	1.00	0.25	1.00	1.00	0.00	1.00	1.00	X	X	1.00	8.25	2
243	216	0	1.00	1.00	0.50	1.00	0.00	1.00	0.00	0.00	X	X	0.00	4.50	2
244	182	0	1.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	4.00	2
245	183	0	1.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	4.00	2
246	185	0	1.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	4.00	2
247	299	1	1.00	X	0.50	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.00	2
248	300	1	1.00	X	0.50	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.00	2
249	358	1	1.00	1.00	0.50	1.00	0.50	0.00	0.00	1.00	X	X	0.00	6.00	2
250	59	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
251	66	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
252	68	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
253	143	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	3.50	2
254	144	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	3.50	2
255	145	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	3.50	2
256	146	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.50	2
257	147	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.50	2
258	148	1	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	2
259	215	0	1.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
260	217	0	1.00	1.00	0.50	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.50	2
261	218	1	1.00	0.00	0.50	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.50	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
262	220	0	1.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	4.50	2
263	221	0	1.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	4.50	2
264	222	0	1.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	4.50	2
265	223	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	4.50	2
266	226	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
267	227	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
268	228	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
269	229	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
270	230	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
271	231	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
272	232	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
273	233	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
274	234	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
275	235	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
276	236	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
277	237	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
278	238	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.50	2
279	239	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	1.00	4.50	2
280	240	0	1.00	X	0.50	X	1.00	0.00	1.00	1.00	0.00	0.00	0.00	4.50	2
281	279	0	1.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
282	301	0	1.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
283	318	0	1.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.50	2
284	319	0	1.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.50	2
285	323	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
286	324	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
287	325	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
288	333	0	1.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.50	2
289	356	1	1.00	1.00	0.50	0.50	1.00	0.00	1.00	0.00	X	X	0.00	6.00	2
290	380	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.50	2
291	381	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.50	2
292	382	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.50	2
293	383	1	1.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	6.50	2
294	384	1	1.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.50	2
295	392	0	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	X	X	0.00	7.50	2
296	268	0	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
297	283	0	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	5.00	2
298	352	0	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	X	X	0.00	6.00	2
299	353	0	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	X	X	0.00	6.00	2
300	132	0	1.00	0.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
301	209	0	1.00	1.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	4.50	2
302	210	0	1.00	1.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	4.50	2
303	327	0	1.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	5.50	2
304	328	0	1.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	5.50	2
305	329	0	1.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	5.50	2
306	330	0	1.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	5.50	2
307	331	0	1.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	5.50	2
308	334	1	1.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.50	2
309	335	1	1.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.50	2
310	336	1	1.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.50	2
311	337	1	1.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.50	2
312	177	0	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
313	188	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.00	2
314	189	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.00	2
315	208	0	1.00	1.00	1.00	0.50	1.00	0.00	0.00	0.00	X	0.00	0.00	4.50	1
316	269	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	5.00	1
317	277	0	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
318	278	0	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
319	280	0	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
320	285	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	5.00	2
321	286	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	5.00	2
322	287	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	5.00	2
323	289	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
324	290	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
325	291	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
326	292	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
327	293	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
328	294	0	1.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	5.00	2
329	295	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
330	296	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	5.00	2
331	297	0	1.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	5.00	2
332	298	0	1.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	5.00	2
333	343	0	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	6.00	1
334	344	0	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	6.00	1
335	345	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	6.00	1
336	346	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	6.00	1
337	347	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	6.00	1
338	348	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	6.00	1
339	349	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	6.00	1
340	350	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
341	351	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
342	357	1	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
343	359	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
344	360	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	1.00	6.00	2
345	361	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
346	362	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	6.00	2
347	365	0	1.00	X	1.00	X	1.00	1.00	0.00	0.00	0.00	1.00	1.00	6.00	2
348	366	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
349	367	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
350	368	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
351	369	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
352	370	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
353	371	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
354	372	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
355	373	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
356	374	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
357	375	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
358	376	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	6.00	2
359	377	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	6.00	2
360	387	0	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	7.00	2
361	388	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	7.00	2
362	389	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	7.00	2
363	390	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	7.00	2
364	391	0	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	X	X	0.00	7.00	2
365	395	0	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	1.00	8.00	2
366	205	0	X	1.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	1.00	4.25	3
367	4	0	X	X	0.00	X	0.50	0.00	0.00	X	X	X	0.00	0.50	6
368	5	0	X	X	0.00	X	0.50	0.00	0.00	X	X	X	0.00	0.50	6
369	24	0	X	X	0.00	X	0.50	0.00	1.00	X	X	X	0.00	1.50	6
370	70	0	X	X	0.00	X	0.50	1.00	1.00	X	X	X	0.00	2.50	6
371	10	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
372	11	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
373	12	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
374	41	0	X	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00	3
375	42	0	X	X	0.00	X	1.00	0.00	0.00	X	0.00	1.00	0.00	2.00	4
376	43	0	X	X	0.00	X	1.00	0.00	0.00	X	0.00	1.00	0.00	2.00	4
377	106	0	X	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.00	3
378	181	0	X	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	2
379	173	0	X	1.00	0.50	1.00	0.25	0.00	0.00	0.00	X	X	1.00	3.75	3
380	266	0	X	1.00	0.50	1.00	0.25	1.00	0.00	0.00	X	X	1.00	4.75	3
381	242	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
382	243	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
383	244	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
384	393	0	X	1.00	0.50	1.00	1.00	1.00	1.00	1.00	X	X	1.00	7.50	3
385	394	1	X	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	1.00	7.50	3
386	315	0	X	1.00	1.00	1.00	0.25	1.00	0.00	0.00	X	X	1.00	5.25	3
387	379	0	X	1.00	1.00	1.00	0.25	1.00	1.00	0.00	X	X	1.00	6.25	3
388	332	0	X	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	1.00	5.50	3
389	284	0	X	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	5.00	2
390	288	0	X	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	1.00	5.00	3
391	304	0	X	X	1.00	X	1.00	1.00	0.00	0.00	0.00	1.00	1.00	5.00	3
392	305	0	X	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	3
393	354	0	X	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	1.00	6.00	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of Null Values
394	355	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	1.00	6.00	2
395	363	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	6.00	3
396	364	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	6.00	3

GeoEngineers

APPENDIX E

PARCELS PRIORITIZED FOR RIPARIAN PROTECTION – BASED ON WEIGHTED CRITERIA

Appendix E - Riparian Protection Prioritization Matrix

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
1	1	0	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	X	X	0.00	0.50	2
2	33	0	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	X	0.00	0.00	2.00	1
3	36	0	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	X	X	0.00	2.00	2
4	116	0	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	X	X	0.00	3.00	2
5	272	0	0.00	1.00	0.00	1.00	0.25	0.00	1.00	1.00	X	X	0.00	4.25	2
6	2	0	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	X	X	0.00	0.50	2
7	75	0	0.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
8	78	0	0.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
9	80	0	0.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
10	81	0	0.00	1.00	0.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
11	6	0	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	X	X	0.00	1.00	2
12	8	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
13	9	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
14	10	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
15	11	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
16	34	0	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	2.00	1
17	35	0	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	2.00	2
18	38	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00	2
19	39	0	0.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00	2
20	40	0	0.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.00	2
21	41	0	0.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.00	2
22	42	0	0.00	X	0.00	X	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	2
23	49	0	0.00	1.00	0.00	0.25	1.00	0.00	0.00	0.00	X	X	0.00	2.25	2
24	79	1	0.00	0.00	0.00	0.50	1.00	0.00	0.00	0.00	X	X	0.00	2.50	2
25	111	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
26	112	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
27	113	0	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
28	119	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.00	2
29	121	0	0.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.00	2
30	122	0	0.00	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.00	2
31	131	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.00	2
32	157	0	0.00	1.00	0.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	3.50	2
33	164	0	0.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	3.50	2
34	188	0	0.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	3.50	2
35	215	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	4.00	1
36	216	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	4.00	1
37	218	0	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
38	219	0	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
39	220	0	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
40	221	0	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
41	222	0	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
42	230	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
43	231	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
44	255	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
45	256	0	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
46	303	0	0.00	1.00	0.00	0.50	1.00	0.00	1.00	1.00	X	X	0.00	4.50	2
47	314	1	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
48	77	0	0.00	1.00	0.25	0.25	0.00	1.00	0.00	0.00	X	X	0.00	2.50	2
49	27	0	0.00	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	1.75	2
50	29	0	0.00	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	1.75	2
51	37	0	0.00	0.00	0.25	0.25	0.50	0.00	0.00	1.00	X	X	0.00	2.00	2
52	96	0	0.00	1.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.75	2
53	97	0	0.00	0.00	0.25	1.00	0.50	0.00	0.00	1.00	X	X	0.00	2.75	2
54	98	0	0.00	1.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.75	2
55	192	0	0.00	1.00	0.25	1.00	0.50	1.00	0.00	0.00	X	X	0.00	3.75	2
56	193	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
57	194	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
58	195	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
59	196	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
60	197	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
61	198	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
62	199	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
63	200	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
64	201	1	0.00	X	0.25	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.75	2
65	19	0	0.00	X	0.25	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	2
66	56	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
67	57	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
68	58	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
69	59	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
70	60	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
71	61	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
72	62	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
73	63	0	0.00	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
74	70	0	0.00	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.25	2
75	138	0	0.00	0.00	0.25	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.25	1
76	143	0	0.00	1.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.25	2
77	145	1	0.00	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.25	2
78	147	0	0.00	X	0.25	X	1.00	0.00	1.00	1.00	0.00	0.00	0.00	3.25	2
79	265	0	0.00	1.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.25	2
80	266	0	0.00	1.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.25	2
81	267	0	0.00	1.00	0.25	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.25	2
82	271	1	0.00	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	4.25	2
83	394	1	0.00	1.00	0.25	1.00	1.00	0.00	1.00	1.00	X	X	1.00	7.25	2
84	159	0	0.00	1.00	0.50	1.00	0.00	1.00	0.00	0.00	X	X	0.00	3.50	2
85	117	0	0.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.00	2
86	118	0	0.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.00	2
87	120	0	0.00	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.00	2
88	252	1	0.00	X	0.50	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.00	2
89	253	1	0.00	X	0.50	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.00	2
90	333	1	0.00	1.00	0.50	1.00	0.50	0.00	0.00	1.00	X	X	0.00	5.00	2
91	20	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
92	21	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
93	22	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2
94	82	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	2.50	2
95	83	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	2.50	2
96	84	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	1.00	2.50	2
97	85	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
98	86	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
99	92	1	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
100	158	0	0.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	3.50	2
101	161	0	0.00	1.00	0.50	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.50	2
102	163	1	0.00	0.00	0.50	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.50	2
103	166	0	0.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	3.50	2
104	167	0	0.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	3.50	2
105	168	0	0.00	X	0.50	X	1.00	1.00	0.00	0.00	0.00	1.00	0.00	3.50	2
106	169	0	0.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	3.50	2
107	170	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
108	171	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
109	172	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
110	173	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
111	174	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
112	175	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
113	176	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
114	177	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
115	178	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
116	179	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
117	180	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
118	181	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
119	182	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.50	2
120	183	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	1.00	3.50	2
121	184	0	0.00	X	0.50	X	1.00	0.00	1.00	1.00	0.00	0.00	0.00	3.50	2
122	227	0	0.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
123	254	0	0.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
124	284	0	0.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
125	285	0	0.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
126	287	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
127	288	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
128	289	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
129	298	0	0.00	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
130	331	1	0.00	1.00	0.50	0.50	1.00	0.00	1.00	0.00	X	X	0.00	5.00	2
131	370	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
132	371	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
133	372	0	0.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.50	2
134	373	1	0.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
135	374	1	0.00	1.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.50	2
136	390	0	0.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	X	X	0.00	6.50	2
137	213	0	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
138	233	0	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	4.00	2
139	328	0	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	X	X	0.00	5.00	2
140	329	0	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	X	X	0.00	5.00	2
141	76	0	0.00	0.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.50	2
142	155	0	0.00	1.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
143	156	0	0.00	1.00	1.00	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
144	293	0	0.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.50	2
145	294	0	0.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.50	2
146	295	0	0.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.50	2
147	296	0	0.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.50	2
148	297	0	0.00	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	0.00	4.50	2
149	299	1	0.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.50	2
150	300	1	0.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.50	2
151	301	1	0.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.50	2
152	302	1	0.00	X	1.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.50	2
153	115	0	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.00	2
154	123	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
155	128	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
156	153	0	0.00	1.00	1.00	0.50	1.00	0.00	0.00	0.00	X	0.00	0.00	3.50	1
157	214	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	4.00	1
158	223	0	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
159	224	0	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
160	229	0	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	4.00	2
161	236	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
162	237	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
163	239	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.00	2
164	240	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
165	241	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
166	242	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
167	243	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
168	244	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
169	245	0	0.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	4.00	2
170	246	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
171	247	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.00	2
172	248	0	0.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	4.00	2
173	249	0	0.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	1.00	1.00	4.00	2
174	315	0	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	5.00	1
175	316	0	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	X	0.00	0.00	5.00	1
176	317	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
177	318	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.00	1
178	319	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	5.00	1
179	320	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	5.00	1
180	321	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	5.00	1
181	323	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
182	325	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
183	332	1	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
184	334	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
185	335	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	1.00	5.00	2
186	337	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
187	338	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
188	340	0	0.00	X	1.00	X	1.00	1.00	0.00	0.00	0.00	1.00	1.00	5.00	2
189	341	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
190	342	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
191	343	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
192	344	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
193	345	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
194	346	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
195	347	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
196	348	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
197	349	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
198	350	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
199	351	0	0.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	2
200	352	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.00	2
201	379	0	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	6.00	2
202	382	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.00	2
203	383	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.00	2
204	384	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.00	2
205	385	0	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	X	X	0.00	6.00	2
206	393	0	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	1.00	7.00	2
207	48	0	0.25	1.00	0.00	0.50	0.25	0.00	0.00	0.00	X	X	0.00	2.00	2
208	5	0	0.25	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0
209	7	0	0.25	0.00	0.00	0.25	0.50	0.00	0.00	0.00	X	X	0.00	1.00	2
210	18	0	0.25	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	2
211	50	0	0.25	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	X	0.00	2.25	2
212	55	0	0.25	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
213	64	0	0.25	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
214	65	0	0.25	X	0.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
215	66	0	0.25	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.25	2
216	67	0	0.25	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.25	2
217	69	0	0.25	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.25	2
218	139	0	0.25	0.00	0.00	1.00	1.00	0.00	0.00	1.00	X	0.00	0.00	3.25	1
219	140	0	0.25	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.25	1
220	141	0	0.25	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.25	1
221	263	0	0.25	0.00	0.00	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	4.25	1
222	358	0	0.25	1.00	0.00	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	5.25	1
223	364	0	0.25	1.00	0.00	1.00	1.00	0.00	1.00	1.00	X	0.00	0.00	5.25	1
224	149	0	0.25	1.00	0.25	0.50	0.25	0.00	0.00	1.00	X	X	0.00	3.25	2
225	150	0	0.25	1.00	0.25	0.50	0.25	0.00	0.00	1.00	X	X	0.00	3.25	2
226	134	0	0.25	0.00	0.25	1.00	0.50	1.00	0.00	0.00	0.00	0.00	0.00	3.00	0
227	257	0	0.25	0.00	0.25	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.00	0
228	258	0	0.25	1.00	0.25	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.00	0
229	87	0	0.25	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.50	2
230	90	0	0.25	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
231	91	0	0.25	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
232	93	0	0.25	X	0.25	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.50	2
233	185	0	0.25	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	3.50	2
234	186	0	0.25	X	0.25	X	1.00	1.00	0.00	1.00	0.00	0.00	0.00	3.50	2
235	190	0	0.25	1.00	0.25	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.50	0
236	309	1	0.25	0.00	0.25	1.00	1.00	1.00	0.00	0.00	X	X	0.00	4.50	2
237	391	1	0.25	1.00	0.25	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.50	2
238	52	0	0.25	0.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.25	2
239	144	0	0.25	0.00	0.50	1.00	0.50	0.00	0.00	1.00	X	X	0.00	3.25	2
240	274	0	0.25	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
241	28	0	0.25	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	2
242	104	0	0.25	0.00	0.50	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.75	0
243	327	0	0.25	1.00	0.50	0.25	1.00	1.00	0.00	1.00	X	X	0.00	5.00	2
244	377	0	0.25	1.00	1.00	1.00	0.50	0.00	0.00	1.00	0.00	0.00	1.00	5.75	0
245	264	0	0.25	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.25	1
246	269	0	0.25	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.25	2
247	270	0	0.25	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	4.25	2
248	275	0	0.25	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
249	276	0	0.25	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
250	279	0	0.25	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.25	0
251	357	0	0.25	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.25	1
252	359	0	0.25	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.25	2
253	360	0	0.25	0.00	1.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.25	2
254	361	0	0.25	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.25	2
255	362	0	0.25	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	5.25	0
256	31	0	0.50	0.00	0.00	1.00	0.25	0.00	0.00	0.00	X	X	0.00	1.75	2
257	32	0	0.50	0.00	0.00	0.00	0.25	0.00	0.00	1.00	X	X	0.00	1.75	2
258	107	0	0.50	0.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	2.75	2
259	108	0	0.50	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	2.75	2
260	109	0	0.50	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	2.75	2
261	203	0	0.50	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
262	204	0	0.50	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
263	205	0	0.50	1.00	0.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
264	12	0	0.50	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0
265	16	0	0.50	X	0.00	X	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2
266	47	0	0.50	1.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0
267	71	0	0.50	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.25	0
268	72	0	0.50	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.25	0
269	133	0	0.50	1.00	0.00	0.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.00	0
270	137	0	0.50	X	0.00	X	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.00	2
271	148	0	0.50	0.00	0.00	0.25	0.50	1.00	0.00	1.00	0.00	0.00	0.00	3.25	0
272	259	0	0.50	1.00	0.00	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.00	0
273	355	0	0.50	1.00	0.00	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	5.00	0
274	25	0	0.50	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0
275	95	0	0.50	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0
276	106	0	0.50	0.00	0.00	0.25	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	0
277	160	0	0.50	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	X	0.00	3.50	2
278	228	0	0.50	1.00	0.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	4.00	2
279	260	0	0.50	1.00	0.00	0.50	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.00	0
280	281	0	0.50	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.50	1
281	283	0	0.50	0.00	0.00	1.00	1.00	1.00	1.00	0.00	X	0.00	0.00	4.50	1
282	376	0	0.50	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	5.50	0
283	262	0	0.50	1.00	0.25	1.00	0.25	0.00	0.00	1.00	X	X	0.00	4.00	2
284	51	0	0.50	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.25	2
285	53	0	0.50	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.25	2
286	54	0	0.50	0.00	0.25	1.00	0.50	0.00	0.00	0.00	X	X	0.00	2.25	2
287	73	0	0.50	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
288	74	0	0.50	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	2.25	2
289	146	1	0.50	X	0.25	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.25	2
290	273	0	0.50	0.00	0.25	1.00	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.25	0
291	30	0	0.50	0.00	0.25	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0
292	99	0	0.50	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
293	100	0	0.50	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
294	101	0	0.50	X	0.25	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	2.75	2
295	105	0	0.50	0.00	0.25	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	2.75	0
296	191	0	0.50	1.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.75	2
297	378	1	0.50	0.00	0.25	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.75	2
298	103	0	0.50	0.00	0.50	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.75	0
299	162	0	0.50	1.00	0.50	1.00	0.50	0.00	0.00	0.00	X	X	0.00	3.50	2
300	187	1	0.50	X	0.50	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.50	2
301	189	0	0.50	1.00	0.50	0.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.50	0
302	238	1	0.50	0.00	0.50	0.50	0.50	0.00	0.00	1.00	X	X	0.00	4.00	2
303	307	0	0.50	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
304	308	0	0.50	1.00	0.50	1.00	0.50	0.00	0.00	1.00	0.00	0.00	0.00	4.50	0
305	310	0	0.50	1.00	0.50	0.25	0.50	1.00	0.00	1.00	0.00	0.00	0.00	4.75	0
306	126	0	0.50	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
307	127	0	0.50	X	0.50	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
308	136	0	0.50	0.00	0.50	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.00	0
309	278	0	0.50	0.00	0.50	0.25	1.00	1.00	0.00	1.00	0.00	0.00	0.00	4.25	0
310	322	0	0.50	0.00	0.50	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	5.00	1
311	290	0	0.50	1.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	4.50	2
312	152	0	0.50	0.00	1.00	0.50	0.25	1.00	0.00	0.00	X	X	0.00	3.25	2
313	206	0	0.50	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
314	207	0	0.50	0.00	1.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	3.75	2
315	208	0	0.50	0.00	1.00	1.00	0.25	0.00	1.00	0.00	X	X	0.00	3.75	2
316	209	0	0.50	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
317	210	0	0.50	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
318	211	0	0.50	0.00	1.00	1.00	0.25	0.00	0.00	1.00	X	X	0.00	3.75	2
319	311	0	0.50	0.00	1.00	1.00	0.25	1.00	0.00	1.00	X	X	0.00	4.75	2
320	312	0	0.50	0.00	1.00	1.00	0.25	1.00	0.00	1.00	X	X	0.00	4.75	2
321	392	0	0.50	1.00	1.00	1.00	0.25	1.00	1.00	1.00	X	X	0.00	6.75	2
322	130	0	0.50	X	1.00	X	0.50	0.00	0.00	1.00	0.00	0.00	0.00	3.00	2
323	202	0	0.50	0.00	1.00	0.25	1.00	0.00	0.00	1.00	0.00	0.00	0.00	3.75	0
324	232	0	0.50	0.00	1.00	0.50	1.00	1.00	0.00	0.00	X	X	0.00	4.00	2
325	282	0	0.50	0.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.50	1
326	336	0	0.50	0.00	1.00	0.50	1.00	0.00	1.00	1.00	X	X	0.00	5.00	2
327	356	1	0.50	0.00	1.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
328	365	0	0.50	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	5.50	1
329	366	0	0.50	0.00	1.00	1.00	1.00	1.00	0.00	1.00	X	0.00	0.00	5.50	1
330	17	0	1.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	X	X	0.00	1.25	2
331	151	0	1.00	0.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	0.00	3.25	2
332	23	0	1.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0
333	24	0	1.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0
334	102	0	1.00	0.00	0.00	0.25	0.50	1.00	0.00	0.00	0.00	0.00	0.00	2.75	0
335	165	0	1.00	0.00	0.00	1.00	0.50	0.00	0.00	1.00	X	X	0.00	3.50	2
336	43	0	1.00	X	0.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2
337	110	0	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	X	0.00	0.00	3.00	1
338	114	0	1.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	X	0.00	0.00	3.00	1
339	129	0	1.00	X	0.00	X	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.00	2
340	135	0	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	3.00	0
341	154	0	1.00	1.00	0.00	0.50	1.00	0.00	0.00	0.00	X	0.00	0.00	3.50	1
342	217	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
343	225	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	1
344	226	0	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	X	0.00	0.00	4.00	1
345	292	0	1.00	1.00	0.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
346	326	0	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	X	X	0.00	5.00	2
347	68	0	1.00	X	0.25	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	2
348	142	0	1.00	0.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	3.25	2
349	268	1	1.00	0.00	0.25	1.00	1.00	0.00	0.00	0.00	X	X	0.00	4.25	2
350	277	0	1.00	0.00	0.25	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	4.25	0
351	88	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
352	89	0	1.00	X	0.50	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2
353	324	0	1.00	1.00	0.50	0.50	1.00	0.00	0.00	1.00	X	X	0.00	5.00	2
354	367	1	1.00	0.00	0.50	1.00	1.00	0.00	0.00	1.00	X	X	0.00	5.50	2
355	368	1	1.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
356	369	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	0.00	X	X	0.00	5.50	2
357	389	0	1.00	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	0.00	6.50	2
358	234	0	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	X	X	0.00	4.00	2
359	291	0	1.00	1.00	1.00	0.50	0.00	1.00	0.00	0.00	X	X	0.00	4.50	2
360	124	0	1.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2
361	125	0	1.00	X	1.00	X	1.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2
362	250	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.00	2
363	251	0	1.00	X	1.00	X	1.00	0.00	0.00	1.00	0.00	0.00	0.00	4.00	2
364	261	0	1.00	X	1.00	X	1.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	2
365	286	0	1.00	0.00	1.00	0.50	1.00	0.00	0.00	1.00	X	X	0.00	4.50	2
366	280	0	X	1.00	0.00	1.00	0.25	1.00	0.00	0.00	X	X	1.00	4.25	3
367	3	0	X	X	0.00	X	0.50	0.00	0.00	X	X	X	0.00	0.50	6
368	4	0	X	X	0.00	X	0.50	0.00	0.00	X	X	X	0.00	0.50	6
369	26	0	X	X	0.00	X	0.50	0.00	1.00	X	X	X	0.00	1.50	6
370	94	0	X	X	0.00	X	0.50	1.00	1.00	X	X	X	0.00	2.50	6
371	13	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
372	14	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
373	15	0	X	X	0.00	X	1.00	0.00	0.00	X	X	X	0.00	1.00	6
374	44	0	X	X	0.00	X	1.00	0.00	0.00	0.00	0.00	1.00	0.00	2.00	3
375	45	0	X	X	0.00	X	1.00	0.00	0.00	X	0.00	1.00	0.00	2.00	4
376	46	0	X	X	0.00	X	1.00	0.00	0.00	X	0.00	1.00	0.00	2.00	4
377	132	0	X	X	0.00	X	1.00	0.00	0.00	1.00	0.00	1.00	0.00	3.00	3
378	235	0	X	1.00	0.00	1.00	1.00	1.00	0.00	0.00	X	0.00	0.00	4.00	2
379	212	0	X	1.00	0.50	1.00	0.25	0.00	0.00	0.00	X	X	1.00	3.75	3
380	313	0	X	1.00	0.50	1.00	0.25	1.00	0.00	0.00	X	X	1.00	4.75	3
381	304	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
382	305	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
383	306	0	X	X	0.50	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	4.50	3
384	395	0	X	1.00	0.50	1.00	1.00	1.00	1.00	1.00	X	X	1.00	7.50	3
385	396	1	X	1.00	0.50	1.00	1.00	1.00	0.00	1.00	X	X	1.00	7.50	3
386	363	0	X	1.00	1.00	1.00	0.25	1.00	0.00	0.00	X	X	1.00	5.25	3
387	388	0	X	1.00	1.00	1.00	0.25	1.00	1.00	0.00	X	X	1.00	6.25	3
388	375	0	X	1.00	1.00	1.00	0.50	1.00	0.00	0.00	X	X	1.00	5.50	3
389	330	0	X	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	0.00	1.00	5.00	2
390	339	0	X	1.00	1.00	1.00	1.00	0.00	0.00	0.00	X	X	1.00	5.00	3
391	353	0	X	X	1.00	X	1.00	1.00	0.00	0.00	0.00	1.00	1.00	5.00	3
392	354	0	X	X	1.00	X	1.00	0.00	0.00	1.00	0.00	1.00	1.00	5.00	3
393	380	0	X	1.00	1.00	1.00	1.00	1.00	0.00	0.00	X	0.00	1.00	6.00	2

Weighted Rank	Unweighted Rank	Sep 15 10:00	Existing Riparian	Previous Planting Recommedations	Potential Shading Based on Aspect	Primary Pools	Gain	Ecology Bedrock	DNR Bedrock	Steelhead redd locations	Spring Chinook Spawning 2003	Summer Chinook Spawning 2003	Parcel Contact with the Entiat River	Prioritization Summation	Number of "N/A" Values
394	381	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	0.00	1.00	6.00	2
395	386	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	6.00	3
396	387	0	X	1.00	1.00	1.00	1.00	0.00	0.00	1.00	X	X	1.00	6.00	3