Umpqua Fish Management District Guide to Restoration Site Selection

Oregon Wildlife Heritage Foundation
Oregon Department of Fish & Wildlife
Umpqua Basin Fisheries Restoration Initative

Umpqua Fish Management District's Guide to InStream & Riparian Restoration Sites and Site Selection

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Results of a Cooperative Project

Funded By:
Oregon Wildlife Heritage Foundation
Umpqua Basin Fisheries Restoration Initiative
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SUMMARY

Research in Oregon coastal areas indicates there is potential to improve the productive capacity of freshwater rearing streams, principally by improving the quality of over-winter rearing habitat for juvenile salmonids. The objective of this document is to identify stream reaches where habitat restoration work may improve the status of anadromous salmonids. This document also represents a contribution to the Oregon's Coastal Salmon Restoration Initiative. In this report, we identify stream reaches in the Umpqua basin with habitat restoration potential. We also discuss selection of appropriate restoration techniques.

The list of potential restoration reaches was compiled based on analysis of Aquatic Habitat Inventory Data and recommendations of ODFW biologists. Our work is designed to complement ongoing habitat protection and restoration efforts by ODFW personnel. The selected reaches may be suitable for various instream and riparian-zone restoration activities specific to perceived limiting factors, thereby increasing capacity to produce salmonids. The reaches have relatively low gradient (<5%), moderate active channel width (3-12 m), and are within relatively broad valleys. These physical characteristics offer the highest potential capacity to support juvenile anadromous fish. The proposed work is intended to help restore natural stream and riparian processes to a condition that will support more production of anadromous fish than is currently possible.

Data from almost 1,200 stream reaches were screened to identify the 215 potential restoration sites described in this report. The sites are primarily on private industrial timberlands. A full description of each potential restoration site was limited by our timetable. As work proceeds on these reaches in the future, prioritization of current sites and identification of additional restoration reaches will occur.

In guides prepared for other basins, the sites or reaches were presented as "probably suitable" for restoration activities to begin immediately. In this guide, however, we could not reduce the list to those sites appropriate for immediate project design. Consequently, the reaches described should be evaluated further before making any commitments to project design. An approach to further evaluation of the proposed restoration sites is described in this report.

Distribution of Potential Restoration Sites:

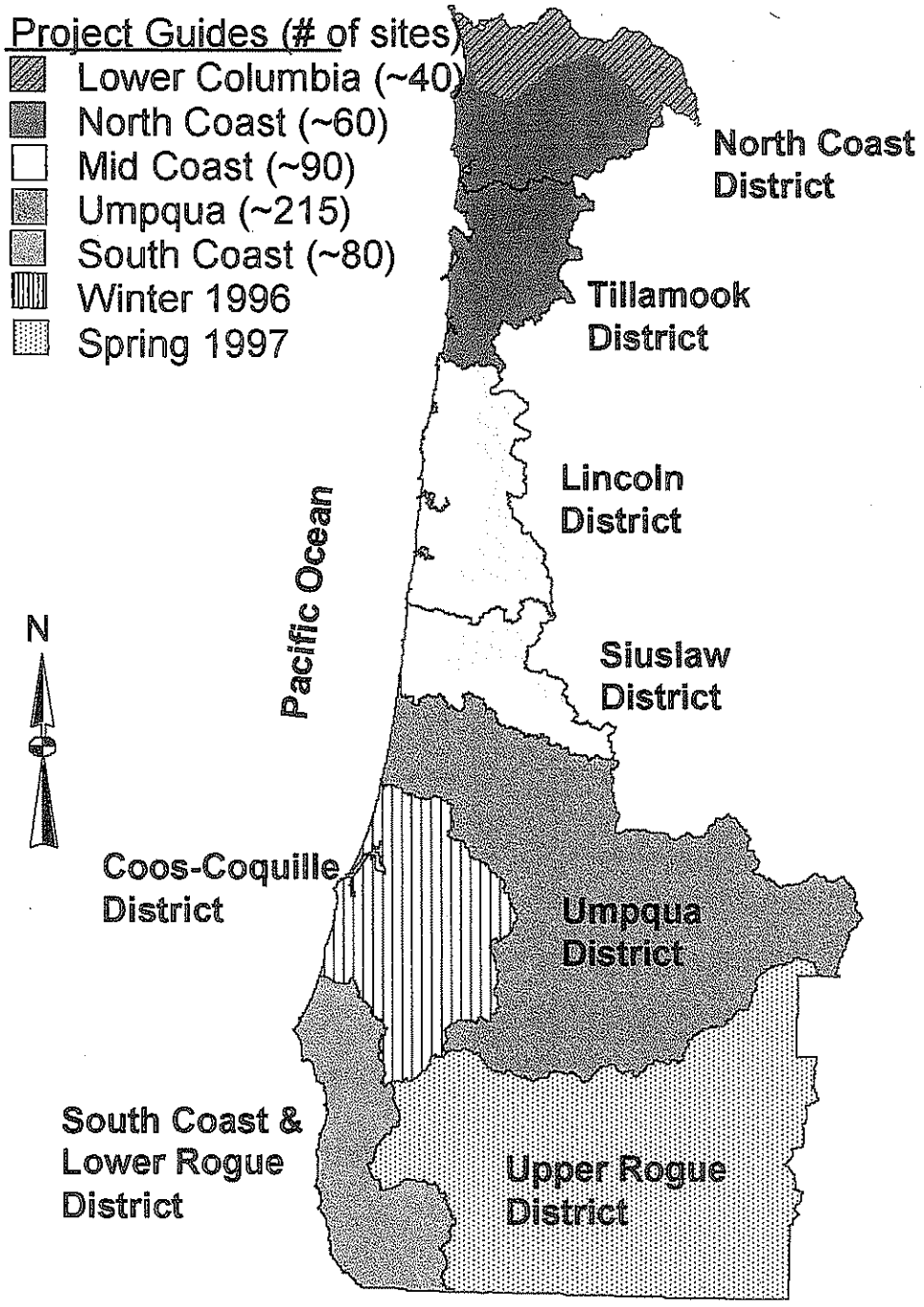
by Sub-basin and Species Affected

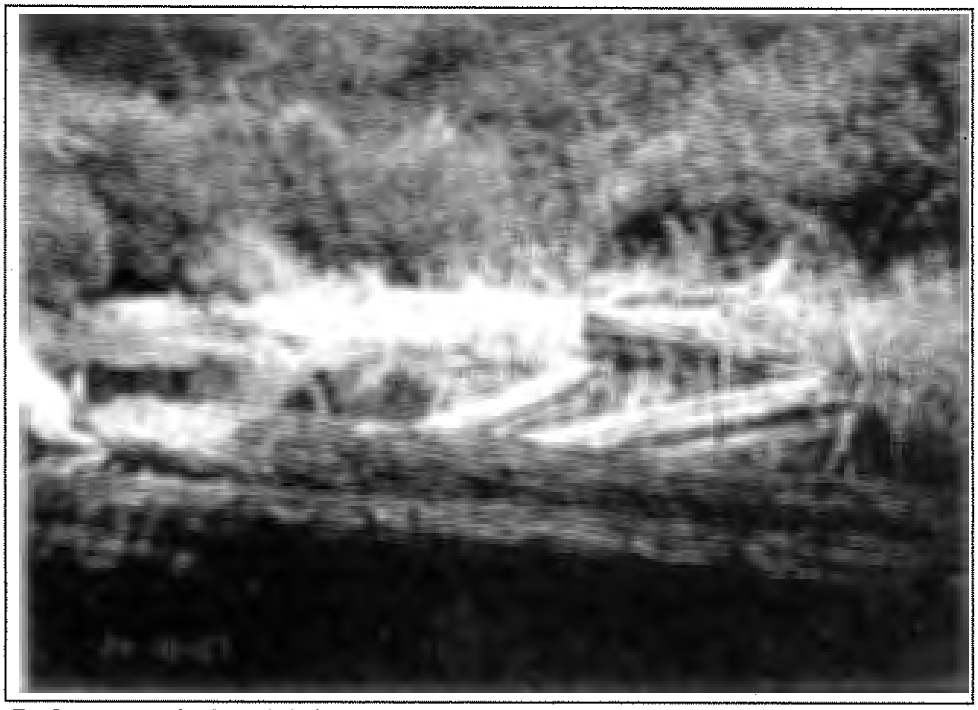
Sub -basin	Coho	Winter Steelhead	Summer Steelhead	Fall Chinook	Spring Chinook	Cutthroat
Smith River	66	66	0	2	0	66
Main Umpqua	61	61	0	0	0	61
N. F. Umpqua	31	50	50	0	0	50
S. F. Umpqua	38	38	0	6	0	38
Totals for Basin	196	154	50	8	0	215

by Sub-basin and Land Ownership

Sub-basin	**Private: timber & agriculture**	**Oregon Forestry**	**USFS**	**BLM**
Smith River	29	0	2	34
Main Umpqua	50	0	0	11
N.F. Umpqua	24	0	18	8
S.F. Umpqua	23	2	1	12
Totals for Basin	126	2	21	65

FISH MANAGEMENT DISTRICTS
AND
PROJECT GUIDES





Backwaters and other high-flow refuges, such as this one in the Smith River, make ideal rearing areas for juvenile coho.

Alder dominated riparian zones provide very little large wood recruitment to the stream. Addition of large woody debris can increase channel complexity and begin floodplain interactions.

Road failures, such as this one in the South Umpqua, are significant sources of sediment. Sediment issues, whether from roads or other sources, should be considered before instream restoration projects are begun.

This culvert on Wolf Creek is a likely barrier to upstream migration of salmonids. If suitable habitat exists upstream, culverts such as this should be a restoration priority.

PREFACE

At this writing, it is summer of 1996 and Oregon's Coastal Salmon Restoration Initiative (OCSRI) is in full stride. Under the leadership of Governor John Kitzhaber, Oregon State agencies are cooperating to develop a plan to restore the vitality of coastal salmonids. This effort is unprecedented, involving active partnerships among state, federal, and local governments; community based watershed councils; and private landowners. The OCSRI will be submitted in the fall of 1996 to the National Marine Fisheries Service (NMFS), which is considering whether to list Oregon coastal coho salmon as a threatened species under the Federal Endangered Species Act. NMFS may determine that Oregon's salmon restoration initiative is sufficient to achieve recovery of the species, thus making formal listing unnecessary. The OCSRI will describe many individual management actions that will help conserve and restore populations of anadromous fish in Oregon coastal river basins.

Action items in the OCSRI include:

- Measures designed to conserve populations of salmon that are currently in the best condition.
- Public and landowner education programs.
- Procedures to improve interagency communication and efficiency.
- Harvest management measures.
- Adjustments to hatchery production programs.
- Goals for riparian management in land-use planning.
- Measures designed to change the condition of streams and riparian environments in agricultural and urban areas so that they are more favorable to salmon production.
- Economic incentive programs.
- Lists of habitat restoration projects that local communities and groups have committed to accomplish in the near future.

This document identifies a potential list of more than 200 stream reaches with physical characteristics indicating suitability as restoration sites. Identification of these sites from approximately 1,200 reaches where data are available represents a significant contribution towards restoration efforts within the Umpqua River Basin, as well as a contribution towards Oregon's Coastal Salmon Restoration Initiative. This guide will help improve the effectiveness of conservation and restoration work in the Umpqua Basin by applying science and organization to the art of habitat restoration.

Restoration of Oregon's anadromous fish resource, of which coho salmon is an important part, is complex. The big challenge is to discover how to allow people and salmon to coexist in the future. This challenge has no endpoint in sight because of the continued human population growth in Oregon, which is expected to compete for natural resources also needed by salmon. In our view, the types of instream and riparian-zone manipulations emphasized in this report are most useful in the short term. What is most needed is a

fundamental shift towards resource management philosophies and practices that support conservation and restoration of landscape forms more favorable to salmon.

In the short term, habitat restoration projects that emphasize instream and riparian-zone work are likely to be one highly visible element of agency and community based restoration activities.

Other activities needed to improve conditions for salmon include:

- Decommissioning, resurfacing or otherwise repairing roads.
- Repairing or replacing inadequate culverts.
- Managing traditional land use practices to conserve and restore riparian habitat that support salmon.
- Managing the effects of hatchery programs.
- Considering fish needs in relation to water appropriation.
- Managing harvest in fisheries to provide adequate escapement of spawners.

We are aware that there are both supporters and detractors of the types of habitat restoration work that are the focus of this report. Supporters tend to believe that human intervention and engineering can compensate for any change in the landscape that has been adverse to salmon production. Detractors tend to believe that instream and riparian-zone habitat restoration projects are at best ineffective, more often detrimental, and mainly serve to distract the public from recognizing the root causes of a degraded salmon production ecosystem.

We believe that modest improvements can be made to instream and riparian-zone environments that will help salmon. At the same time, society must recognize the basic manner in which landscape alteration and human activity has contributed to the decline of salmon populations. The long-term challenge is to negotiate societal decisions that will address complex, conflicting issues of human population growth and resource management in a manner that will allow perpetuation of salmon in concert with people in Oregon. We hope that this document will help inform everyone concerned with salmon restoration that the ultimate solutions are not simple.

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TABLE OF CONTENTS

INTRODUCTION

Salmon have declined to a small fraction of their historic abundance in Oregon, partly because a number of human activities have altered their environments. Society recognizes the immediate crisis, namely too few salmon. This crisis is merely a symptom of many factors acting over a broad scale of space and time to reduce salmon production. These factors include, but are not limited to:

- Fishing
- Urbanization
- Farming, grazing, and other related agricultural activities
- Logging
- Road building
- Hatchery operations
- Withdrawing water from streams
- Damming streams.

Loss or degradation of fish production habitat in freshwater is just one of many factors that has contributed to the decline of anadromous salmonids in Oregon. In a period when considerable effort will be committed to attempts to restore the smolt production capacity of freshwater habitat, guidance is needed to optimize the benefits obtained from investment of time, money, and human resources. Although many habitat restoration projects have been conducted throughout Oregon in recent years, a general strategy to identify and prioritize many restoration sites over a broad geographic area is only recently evolving.

The Oregon Wildlife Heritage Foundation (OWHF), a leader in sponsoring private-sector investment in habitat restoration efforts, has helped sponsor projects to identify potential restoration sites in other coastal and lower Columbia areas. Areas now covered by these restoration guides include:

- Tillamook/North Coast (November 1994)
- Tributaries to the lower Columbia (April 1995)
- Lincoln and Siuslaw Fish Management Districts (November 1995)
- South Coast and Lower Rogue Fish Management District (November 1995)

These reports provided a general model for this document, and their specific guidance and conceptual information are a basis for habitat restoration projects. In addition, OWHF provided funding for two habitat biologists who are now preparing detailed project plans and coordinating implementation of restoration projects for the Tillamook/ North Coast and for the Lincoln and Siuslaw Fish Management Districts.

This guide may be used as a catalog of reaches proposed for consideration as restoration project sites. While the guide focuses on reaches where work is most likely to benefit coho salmon, the proposed activities are generally beneficial to native species and the

aquatic and riparian ecosystems on which they depend. The goal of developing these habitat restoration guides is ambitious, considering that we are synthesizing conceptual approaches and available data to create a product unlike anything that has been developed previously. We emphasize that this work is not a comprehensive prescription for habitat restoration. It is, however, a systematic approach to identify stream reaches suitable for coho restoration.

The objective of instream and riparian-zone work is to make localized "repairs" to habitats that have been altered by traditional land-use practices. Focus is on actions that may be taken to produce more fish from currently available spawning populations by making "improvements" in rearing habitats. Essentially, we are attempting to accelerate rebuilding of salmon populations by enhancing key habitat elements that are in short supply in contemporary ecosystems.

Habitat restoration work based on recommendations in this and similar restoration guides should, collectively and over time, result in a substantially improved smolt production capacity. Another expectation is that the projects provide a base of ecological support, possibly helping to maintain some coho populations that are at precariously low levels, until other restoration measures take effect. Further, we believe that conduct of the work described in these reports is an essential element of educating the public, landowners, and resource managers about the habitat needs of salmon and the challenges of attempting to restore these habitats to more favorable conditions. Overall, successful restoration will be achieved only by addressing limiting factors that may occur throughout the entire salmon life cycle. Ultimately, complex issues of human population growth and resource management must be addressed constructively as well.

As we examine more streams to identify reaches with highest potential for restoration, we remain convinced that the work we are proposing will not, by itself, achieve lasting recovery of depressed salmonid populations. As we examine more streams, also, we become more convinced that instream and riparian-zone restoration efforts, while not sufficient, are a necessary component of a comprehensive salmon restoration strategy. We have examined many, many miles of rearing streams in Oregon coastal and lower Columbia River areas. In doing so, we found surprisingly few that are presently in what we would call "good" condition with respect to the life history needs of anadromous salmonids. We do not expect to be able to transform all of the stream reaches identified in these reports from poor to excellent rearing habitats.

Anadromous salmonid populations present in the Umpqua Fish Management District include:

- Coho salmon
- Spring and fall chinook
- Chum salmon
- Summer and winter steelhead
- Sea-run cutthroat trout.

Of these species, only fall-run chinook populations are characterized as meeting current expectations for natural production. Umpqua basin cutthroat trout, both sea-run and resident, are listed as endangered and coastal steelhead are proposed for listing as threatened under the Federal Endangered Species Act. Efforts to increase the availability of instream and off-channel over-wintering habitats for coho salmon are also expected to increase the productive capacity of habitat for steelhead and cutthroat smolts. Efforts to improve the rearing capacity of smaller tributary streams are consistent with maintaining and enhancing the productive capacity of mainstem reaches.

CHOOSING POTENTIAL RESTORATION SITES IN THE UMPQUA FISH MANAGEMENT DISTRICT

Target Species

The habitat features used to identify potential restoration sites are generally associated with juvenile coho salmon. We expect that the potential restoration sites identified in this report may be used by juvenile coho, juvenile summer and winter steelhead, and cutthroat trout. Approximately **19** of the potential restoration reaches included in this report are in habitat not used by coho. All types of restoration work recommended are consistent with improving the quality of aquatic environments both locally and downstream from the restoration sites. Thus, these projects are consistent with maintaining currently healthy downstream populations of chinook salmon that exist in most of these larger river basins.

Methodology

We relied almost exclusively on the existing Aquatic Habitat Inventory Project (AQI) database to identify potential restoration sites. This stream survey project began in 1990 with funding from the Restoration and Enhancement Program. In 1992 the Umpqua Basin Fisheries Restoration Initiative formed and began funding these habitat surveys in the Umpqua basin. These surveys are designed to be compatible with other inventory efforts and will be a key component of future enhancement planning and monitoring. We began with data for **1,174** stream reaches from the Aquatic Inventory Project database for the Umpqua Basin (**Figure 1**). This represents summarized habitat data for 241 streams with a combined length of 2,217km (1,377 mi.).

Our initial query identified reaches where the active channel width ranged from 3 meters to 12 meters, the gradient is less than 5 percent, and the channel is not constrained by hillslopes (valley width index >2). This query reduced our list to **503** potential reaches for restoration. Recognizing that this number of reaches was not a realistic restoration goal in this effort, we began looking for ways to identify reaches that should be considered first when designing habitat projects

Our first attempt to narrow the search to a workable number of reaches involved the Umpqua Habitat Matrix (UHM). The UHM was presented to us as a tool to evaluate stream conditions based on scores assigned to habitat characteristics. The UHM gives a single score (high of 100), that is intended to represent the overall quality of fish habitat in a reach. This single score is a composite of sub-scores from each of 14 habitat characteristics. As described by Umpqua District staff, a score of 100 would indicate the stream was excellent for all habitat characteristics considered.

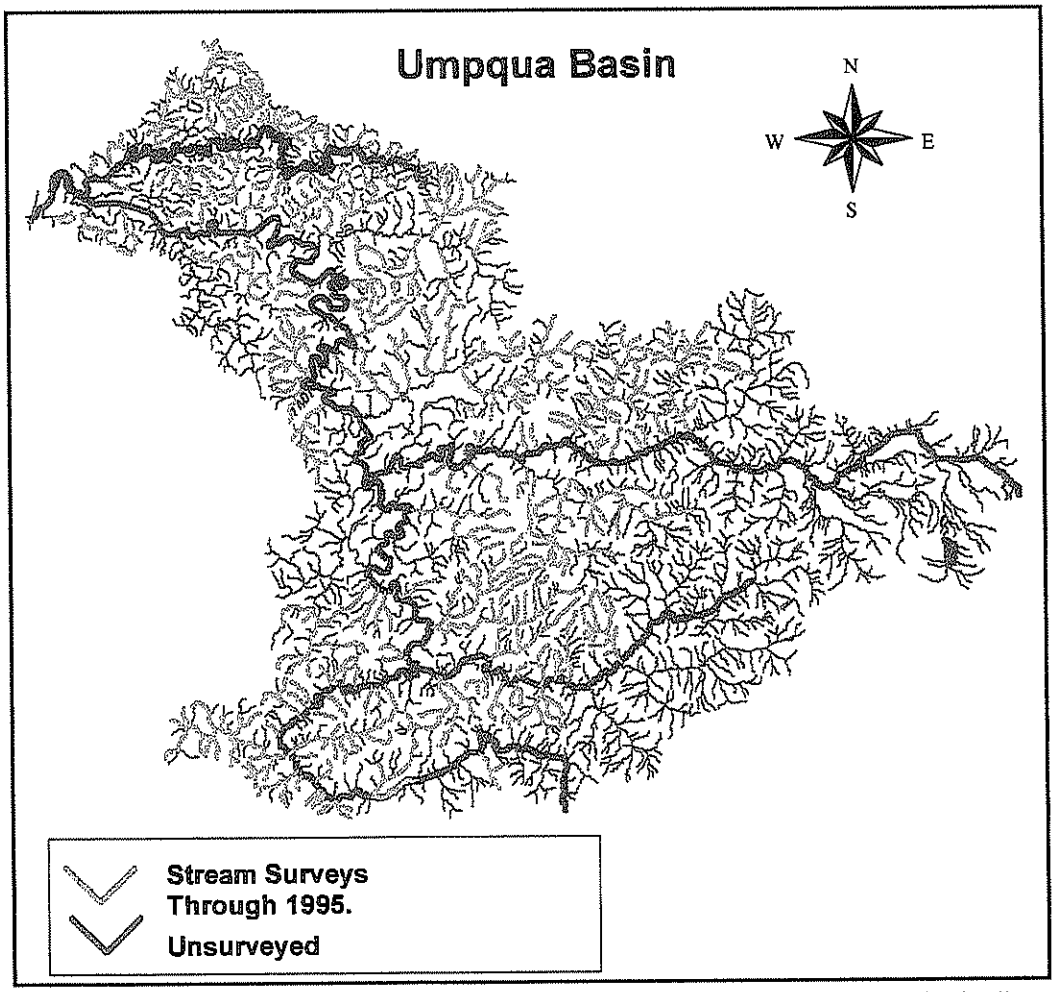


Figure 1: Streams surveyed using ODFW Aquatic Inventory Project Methods in the Umpqua Basin.

After analysis of the scores and methods used to generate the composite score we chose not to use the UHM during the reach selection process. We based this decision on our uncertainty of the best application of the scores during this phase of the process. It was unclear to us, based on descriptions of the UHM that were provided, whether the UHM score gave a fair assessment of the stream habitat. Due to this uncertainty, we settled on an approach that narrows the field of reaches to geographically defined priority watersheds. A description of this process follows. Although we were unable to utilize the UHM in this stage of our selection process we remain open to its utility for future efforts involving stream habitat projects. Complete UHM information, including scores, can be obtained from the Umpqua District Office in Roseburg.

The approach of using fish presence, spawner density, and perceived overall value of a watershed defined high priority areas to focus our efforts. Having identified reaches that are physically suited to instream restoration, we felt significant spawners should be present in the vicinity of the proposed reaches. The following watersheds and sub-basins were

identified by Umpqua District staff as being high priority (see maps in individual sub-basin sections):

- West Fork Smith River (coho)
- Upper Smith River (from River Mile 44) (coho, cutthroat, & winter steelhead)
- Elk Creek (coho)
- North Umpqua River (from Glide to River Mile 62) (cutthroat, winter & summer steelhead)
- Cow Creek (to Galesville Dam; River Mile 60) (coho, cutthroat, & winter steelhead)

By selecting only reaches located in these areas, we reduced the list to **202** potential restoration reaches.

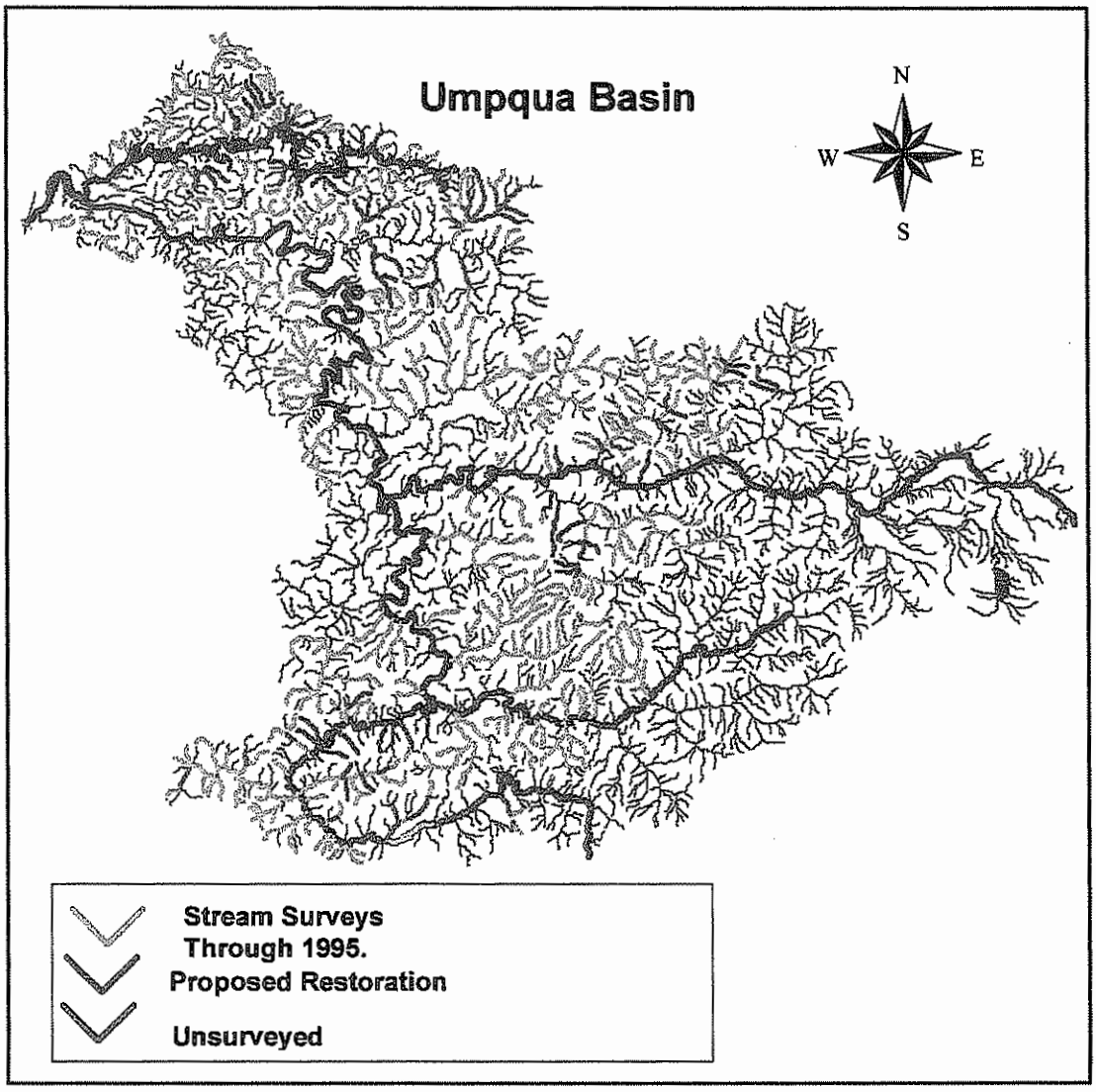


Figure 2: Streams surveyed using ODFW Aquatic Inventory Project Methods and approximate location of reaches proposed for restoration.

To this list we added 13 reaches from three streams (Wasson, Vincent, and Buck Creeks) in lower Smith River that are known to have high numbers of spawning coho . This increased our list to the final number of **215** potential restoration reaches **(Figure 2)**. Other basin guides have used additional criteria to determine the suitability of sites for instream restoration. Previously, we selected sites on private land, primarily industrial timberland, and on state timberland. For this guide, however, we listed potential restoration reaches on both public (state and federal) and private land.

Many selected sites in other basin guides were surveyed using an abbreviated "reconnaissance survey" to record basic physical data about the stream. These reconnaissance surveys filled gaps where the survey effort had been low. Such surveys were not necessary in the Umpqua Basin because the survey effort here has been high, and the number of surveyed streams was more than sufficient to generate a list of suitable sites.

It is quite evident that the 215 reaches proposed represent approximately half of the 503 reaches that are suitable, based on physical stream characteristics. Our intention is for additional stream reaches to be selected in the future. We have chosen to focus our efforts in high priority watersheds, but this does not preclude proposing reaches in other areas in the future.

Continuing the Selection Process

We now have a list of 215 reaches that merit further consideration. Unlike other basin guides that generated a final list with descriptions of site location, access, recommended prescriptions, and more, the list of reaches for the Umpqua Basin needs further attention. Water quality and quantity are two important factors we did not address in this effort.

We deliberately did not eliminate reaches based on temperature or other water quality issues because we thought it premature at this point in the process. Instream restoration does not address temperature but can be done in conjunction with riparian restoration that may address temperature. Water quality issues related to flow, particularly over appropriated water withdrawals, should probably exclude instream restoration activities.

Furthermore, many reaches we identified have restoration activities already planned or completed. This factor was not included in our screening process. Full consideration should be given to the need and/or compatibility of additional projects before project design begins. In some cases, old restoration projects can be augmented or "repaired" to make them more effective.

Further evaluation of the proposed reaches will be done by Umpqua Fish District staff using appropriate methods. This review is intended to rely on local knowledge of stream reaches to plan, propose, and design specific activities and to prioritize the reaches.

In **Appendix A** we have included a "habitat factor evaluation worksheet" to help determine the limiting factors for each reach. We recommend the use of this worksheet before designing restoration projects. The most effective instream restoration addresses the perceived limiting. Many instream projects are not as likely to be successful if done independent of riparian and upslope restoration. We strongly suggest identifying limiting factors for reaches listed herein, as well as for reaches considered in the future. To further assist with identifying limiting factors, habitat benchmarks developed by the Aquatic Inventory Project are included in **Appendix B**.

IMPLEMENTING THE RESTORATION GUIDE

Intended Instream/Riparian Restoration Activities

As previously stated, the purpose of this guide is to help select reaches where instream restoration activities are likely to succeed. This is a fairly narrow scope of projects that are limited to the stream channel and adjacent terraces and riparian zones. Generally, we are recommending five types of activities:

- Protection. Areas where habitat is in relatively good condition or is at a stage of recovery where protection is the best prescription.

- Addition of Large Woody Debris (to main channel pools, secondary channels, heads of islands and existing accumulations). Oregon Department of Forestry has published suggestions and guidelines for the placement of large woody debris. (Also see next section in this document on large woody debris placement).

- Conversion of Alder Riparian Areas to Conifer. This is a long term process intended to provide future recruitment of large wood to the stream. Care must be taken to assure that removing the alder canopy does not create or exacerbate temperature concerns. Consult Oregon Department of Forestry Forest Practices Rules.

- Livestock Management. Fencing of riparian areas or modification of grazing patterns where livestock are adversely affecting riparian vegetation and bank stability. These activities can address both temperature and siltation concerns.

- Beaver Management. Evidence suggests beaver-associated habitats offer considerable benefit to juvenile coho production. By allowing beaver populations to persist in coho areas these benefits may be perpetuated. Careful consultation should occur with landowners where beaver populations could have adverse impacts on culverts and/ or tree plantations adjacent to the stream.

In all cases, implementation of instream restoration should be addressed with upslope issues in mind. We recommend using the worksheet in Appendix A to assess the limiting factors and potential for addressing those with instream restoration.

Large Woody Debris Placement

Stream restoration techniques, primarily the placement of large woody debris, have changed significantly since the Civilian Conservation Corps first started stream restoration in the 1930s. Our understanding of how large wood functions in a stream (i.e., how wood interacts with the water, the channel, and fish) has changed dramatically in the last decade. Since the time when stream clearance was emphasized, we have learned that wood plays a

pivotal role in providing structure and complexity in the stream channel. This structure and complexity is a necessary ecosystem component for the survival of salmonids.

The projects we propose here are not necessarily tied to a harvest plan, and involve the use of material that is larger than material generally used in past projects. Recent research on stream restoration techniques has allowed us to greatly improve the effectiveness of our efforts in placing large woody debris (LWD) in channels and alcoves adjacent to streams. Essentially we have learned that large complex pieces provide better overwintering habitat for coho and other salmonids. This means using wood whose length is at least 1.5 times the bankful width of the stream with a minimum range of 10-22 inches in diameter.

Bankful Width (feet)	**Minimum Diameter (inches)**	**Minimum Length**
0 to 10	10	1.5 times bankful width
10 to 20	16	"
20 to 30	18	"
30+	22	"

For example, wood used in a stream with a bankful width of 20 feet would need to be at least 30 feet in length and 18 inches in diameter. Ideally, whole trees would be used; including branches and rootwads, however, this option is not always available. Wood this size greatly increases effectiveness of the restoration project.

Pieces of wood that are longer than the stream is wide are more stable and not as likely to be washed away during high flow events. With pieces of this length, part of the wood can remain on the bank to serve as an anchor and alleviate the need for cabling and boulders. By leaving rootwads and branches attached, further anchoring is achieved and the potential for complexity is heightened. Furthermore, very large wood is able to deflect higher flows and generate more scouring power than small pieces or bundles of small pieces. This increased scouring and deflection may create pools and backwaters that provide high water refugia and helps create the complexity necessary for high survival of coho during the winter.

These restoration methods are intended to restore natural ecological function. The use of very large pieces of wood, without cables, closely mimics the natural process of wood recruitment to the stream. Augmenting existing pieces of wood and placing them in "natural' configurations allows the wood to shift short distances, creating habitat that reflects the hydraulics of the channel.

Many ideas presented in this report are reiterated in the Conclusions from *A Suggested Approach to Salmon Habitat Rehabilitation Stressing the Need to Address Life History Characteristics and Fluvial Geomorphology* (**Appendix C**).

Habitat Restoration

Are there places we should not be working?

Why is it sometimes desirable to do stream restoration work? Most streams in Oregon are very different from when salmon evolved, some so much as to be nearly or entirely unsuitable for salmon production. The objective of a habitat restoration project is usually to improve the aspect of the stream thought to be most different from what salmon need. For example, a stream may have good water quality for young salmon in the summer, but may lack adequate shelter areas during winter floods. Another stream may have adequate shelter during winter floods, but may be too warm for juvenile salmon during the summer.

Sometimes, the limiting factor is not precisely known, so we make an educated guess and attempt to improve the likely condition. Restoring the productivity of our streams for salmon is desirable. Some stream reaches make very good candidates for restoration, and others very poor candidates. Also, different species of salmon have somewhat different needs. Habitats best suited to coho differ from habitats best suited to chinook, and so on. Habitat restoration work will be most effective in locations where we can understand what the fish need most, and where our work results in landscape-scale changes that are more favorable to salmon production.

The following is a general guide to help identify areas that are both good and poor candidates for stream restoration activities.

Best stream reaches for restoration have these characteristics:	**Poor reaches for restoration have:**	**What to do if the reach is best described by the *poor* condition**
low gradient (<5%)	high gradient (>5%)	Structures placed in steep reaches will probably get washed downstream. It may be possible to locate flats or benches of low gradient even where the overall gradient is steep. Instream work should be limited to these areas.
moderate channel size (<12m)	large channel size(>12m)	Structures placed in large channels may get washed downstream. Instream work in these channels should use very large pieces that only extend part way into the channel.
moderate valley shape	steep or "V" valley shape	Streams in steep or "V" shaped valleys are constrained by the valley walls. during high flow events these high energy streams have limited potential for winter rearing. Any instream structures should be limited to sections of wider valley where stream energy can be dissipated.

Good areas, continued	Poor areas, continued	What to do, continued
temperature water cool enough for juvenile salmon to live in during the summer	water too warm for juveniles salmon to live in during the summer	No summer use by juvenile salmon, but may be used for winter shelter. Efforts to restore or improve streamside shading may, after years, result in water temperatures that are suitable for young salmonids.
water supply adequate supply of water to support young salmon during the summer	not enough water to support young salmon during the summer	Small streams that dry up in the summer, either naturally or from water diversions, may provide useful over-winter habitat. However, if these streams are too steep, not adjacent to summer rearing areas, or have water quality problems there is little potential for winter rearing. Restoration efforts on streams that dry in the summer should carefully assess the potential for winter rearing use.
access free access by adults and juveniles during migration	restricted access by adults and juveniles during migration	Stream reaches that are effectively or even partially blocked by culverts may have other physical properties that make them desirable for restoration work. Priority should be given to resolving the passage problem in these areas.
proximity spawning, summer rearing, and winter rearing habitats within several miles of each other	large distances separating habitats that appear to be suitable for spawning and rearing areas	Reconnecting fragmented habitats is a long term endeavor. Streams that are devoid of a habitat feature critical to the salmon life-cycle will be harder to restore than areas where critical components are present. Efforts to trap gravel where there is none, reduce sediment inputs when a stream is overloaded, reduce summer water temperatures where they are currently too warm, are likely to take decades to be effective.
diversions downstream migrating juveniles are protected from diversions and withdrawals by good screens	downstream migrating juveniles are vulnerable to diversions	Efforts should be made to provide screens at all diversions and withdrawals that may injure or kill downstream migrants

Umpqua River Estuary

Estuaries are an important component of the land-sea interchange. It is here that fresh and salt water mix in accordance with the ebb and flow of the tide. This dynamic quality of estuarine systems is reflected by daily fluctuations in salinity and water quality which occur through tidal and seasonal cycles. The variety of habitat types and uses is reflected by the distribution of plant and animal life throughout the estuary based on their tolerance of the physical characteristics of the estuary.

Estuaries typically experience pressure for development from a variety of user groups. Their sheltered moorage is important for docking of commercial and sport fisheries. On-shore development considerations include industrial, residential and recreational uses. Dividing the estuary's limited resources among so many groups and maintaining a biological balance is challenging to management agencies. Classification of the physical and geological components of estuaries has been developed and inventories of habitat types based on the morphological characteristics of the estuarine environment have been completed in many areas. Monitoring of dike building and fill activities and estimations of habitat loss have been documented. However, there is little information available from studies of specific estuaries to analyze the unique interactions between the organisms found in these habitats. Analysis of the Umpqua estuary has occurred most often through projects looking at all Oregon estuaries.

Research Objectives for Consideration

The following is a short list of projects that could assist management agencies in identifying areas with important biological components for protection and reclamation activities:

- Shellfish inventory and analysis of economic importance
- Estuarine habitat needs and population sizes of salmonids and pacific lamprey
- Inventory and distribution assessment of native and non-native vegetation
- Inventory and distribution assessment of aquatic macroinvertebrates.

Restoration and Mitigation

Estuaries where reclamation has occurred through the removal of dikes, fill, and tide gates has resulted in recolonization by some of the historically present plant and animal communities. The following examples are areas identified in the Umpqua estuary for reclamation projects:

- Portions of lower Smith River
- Providence Creek
- Scholfield Slough
- Bolan and Steamboat Islands.

SUB-BASIN AND RESTORATION SITE DESCRIPTIONS

This section of the guide is perhaps more akin to an appendix. It is divided into 4 parts, each containing a description of one of the 4 sub-basins and summarized data for each reach selected within that sub-basin. The data summarized here is from the ODFW Aquatic Inventory Project.

IMPORTANT:

- Specific reach location information i.e. beginning & ending points of reaches and maps can be found in the stream habitat survey binders located at the ODFW District office in Roseburg and at the Fish Research lab in Corvallis.
- Reaches are listed in alphabetical order by stream name. They are not grouped by watershed.

APPENDIX A

Factors to consider for salmon habitat restoration projects	Current conditions			Expected opportunity to improve conditions over current status			
Factor evaluated	Poor	Potentially at risk	Good	Poor	Little or unknown	Good	Remarks
Completed Projects: large woody debris							
: boulders							
: riparian							
Water quality: summer temperatures							
: summer flows							
: turbidity							
: ODEQ designation (303d)							
Migration barriers: culverts							
: screens at /diversions							
Habitat conditions: riffle substrate							
: large wood							
: pools							
: off-channel habitat							
Channel conditions: streambanks							
: floodplain connection							
: width and depth							
Watershed conditions: roads							
: riparian areas							
: landslide history							
Fish Population: species present							
: spawner density							
: hatchery fish influence							

FACTOR	POOR	AT RISK	GOOD
Completed Projects:			
Large woody debris	not functioning: doesn't trap debris, provides little cover, doesn't adjust flows	little interaction with floodplain, trapping little debris	accumulating debris, providing roughness and cover, interaction with floodplain
Boulders	barrier at all flows, placed where boulders not normally found	may be a barrier at some flows,	trapping gravel and debris, providing roughness and cover
Water Quality			
Summer temperatures	>64°F	58°F - 64°F	<58°F
Summer flows	low flow timing and level deviates from that of similar undisturbed watersheds	some deviation in flow level and timing from similar undisturbed watersheds	no apparent deviation from level and timing of similar undisturbed watersheds
Turbidity	high turbidity	moderate turbidity	low turbidity
ODEQ	ODEQ 303d list: does not meet federal water quality standards	no information or moderate levels of chemicals and excess nutrients	meets federal water quality standards, no ODEQ 303d listing
Migration barriers			
Culverts	block upstream and downstream movement of adults and juveniles at all flows	block upstream and/or downstream movement of adults and juveniles at low flows	allow full passage upstream and downstream of adults and juveniles at all flows
Diversions	not screened, interrupts downstream and/or upstream migration of juveniles and adults	some disruption of movement, screens not on all diversions or in need of maintenance	screened and functioning, no interruption of movement
Habitat Conditions			
Riffle substrate	>25% fines or bedrock, silt and sand dominate	15-25% fines	<15% fines
Large wood	few pieces >20" diameter, no jams	pieces >20" present, no riparian source of wood for recruitment.	abundant pieces >20" diameter, mature riparian for recruitment
Pools	no pools >1 meter deep, pools have little cover, pools lack scour element and filled with sediment	few pools >1 meter deep, some cover, marginal scour, some filling by sediment	pools >1 meter deep with complex cover, good scour, very little sediment filling
Off-channel habitat	few or no backwaters, side channels, or slow water areas	poorly connected backwaters and side channels with little cover	low energy backwaters and side channels with cover

FACTOR	POOR	AT RISK	GOOD
Channel conditions			
Streambanks	> 20% of banks are actively eroding	10-20% of banks are actively eroding	< 10% of banks are actively eroding
Floodplain connection	little connectivity from greatly reduced flood frequency, resulting in altered riparian/ wetland function	some connectivity from reduced flood frequency, moderately altered riparian/ wetland function	flooding equal to historic frequency, maintenance of riparian/ wetland function
Width/ depth ratio	wide and shallow, evidence of active widening, lateral erosion	most reaches narrow and deep but evidence of active widening	most reaches narrow and deep, no evidence of active widening
Watershed conditions			
Roads	high road density, roads located in valley bottoms	moderate road density, some valley bottom roads	low road density, no roads in valley bottoms
Riparian areas	fragmented riparian zones, severe reduction of shading and potential for near future lwd recruitment, very dissimilar to potential natural community	moderate fragmentation, some reduction in shading and lwd recruitment potential	connectivity to sub watersheds, provides shade, lwd recruitment, similar to potential natural community
Landslide history	landslide activity, greater than historic rate and extent	landslide activity above historic rates	landslide activity similar to historic levels
Fish population			
Species present	reduced diversity from historical species, may have non-natives	historical assemblage intact but low populations or non-natives present	historical species assemblage intact
Spawner density	very low spawner density compared to potential capacity of habitat	moderate spawner densities compared to potential capacity of habitat	spawner densities equal to potential capacity of habitat
Hatchery fish influence	out of compliance with ODFW Wild Fish Policy	uncertain compliance with ODFW Wild Fish Policy	full compliance with ODFW Wild Fish Policy

Areas with several factors in the "poor" category may require very long-term strategies with expectations for slow recovery. Reaches with one or two "poor" ratings and mostly "good" ratings may have the greatest potential for measurable response. The areas that have mostly fair to good evaluations from this worksheet will have the quickest response to restoration and should be prioritized accordingly.

APPENDIX B: ODFW AQUATIC INVENTORY PROJECT: HABITAT BENCHMARKS

	UNDESIRABLE	DESIRABLE
POOLS		
POOL AREA (% Total Stream Area)	<10	>35
POOL FREQUENCY (Channel Widths Between Pools)	>20	5-8
RESIDUAL POOL DEPTH		
LOW GRADIENT (slope <3%)or SMALL (<7m width)	<0.2	>0.5
HIGH GRADIENT (slope >3%)or LARGE (>7m width)	<0.5	>1.0
COMPLEX POOLS (Pools w/ complexity >3/km)	<1.0	>2.5
RIFFLES		
WIDTH / DEPTH RATIO (Active Channel Based)		
EAST SIDE	>30	<10
WEST SIDE	>30	<15
GRAVEL (% AREA)	<15	≥35
SILT-SAND-ORGANICS (% AREA)		
VOLCANIC PARENT MATERIAL	>15	<8
Sedimentary PARENT MATERIAL	>20	<10
CHANNEL GRADIENT <1.5%	>25	<12
SHADE (Reach Average, Percent)		
STREAM WIDTH <12 meters		
WEST SIDE	<60	>70
NORTHEAST	<50	>60
CENTRAL - SOUTHEAST	<40	>50
STREAM WIDTH >12 meters		
WEST SIDE	<50	>60
NORTHEAST	<40	>50
CENTRAL - SOUTHEAST	<30	>40
LARGE WOODY DEBRIS* (15cm x 3m minimum piece size)		
PIECES / 100 m STREAM LENGTH	<10	>20
VOLUME / 100 m STREAM LENGTH	<20	>30
"KEY" PIECES (>50cm dia. & > ACW long)/100m	<1	>3
RIPARIAN CONIFERS* (30m FROM BOTH SIDES CHANNEL)		
NUMBER >20in dbh/ 1000ft STREAM LENGTH	<150	>300
NUMBER >35in dbh/ 1000ft STREAM LENGTH	<75	>200

Values for Streams in Forested Basins
"Desirable" habitat conditions based on values from surveys of reference areas with known productive capacity for salmonids, surveys of late successional forest streams, and surveys of non-forest streams with mature riparian conditions. "Undesirable" habitat conditions based on values associated with known problem areas or from the lower 30th percentile of combined data for each region.

APPENDIX C

A paper presented to: *Towards Sustainable Fisheries: Balancing Conservation and Use of Salmon and Steelhead in the Pacific Northwest.* A conference held in Victoria B.C., Canada on April 26-30, 1996. Sustainable Fisheries Foundation and American Fisheries Society.

From; "A Suggested Approach to Salmon Habitat Rehabilitation Stressing the Need to Address Life History Characteristics and Fluvial Geomorphology", Cederholm, C.J., Dominguez, L. , Washington Department of Natural Resources, Olympia, Washington.

Conclusions

1) There is no substitute for habitat protection.
2) Rehabilitation efforts should focus on underlying processes.
3) Priority upslope and riparian rehabilitation work can occur simultaneously with instream work. However, in extremely degraded conditions, rehabilitate these areas first.
4) Understanding the habitat requirements and limiting factors of existing fish communities contributes to successful projects.
5) Before proceeding seek to understand the existing state of channel disturbance and recovery.
6) Attempt to simulate natural (unmanaged) LWD abundance and arrangements.
7) Biologists and engineers should complement each other.
8) When available, large diameter (0.6m) conifer is preferable.
9) LWD volume requirements are a safe recommendation.
10) We recommend enhancement of refuge in off-channel and wall base channel areas in large rivers and streams (i.e. ponds).
11) We recommend LWD work in channels with the following characteristics:
    a) channels <7m wide and gradients <5%, and
    b) channels 7 to 20 m wide with gradients <2%.
12) Monitoring, as a form of learning, is essential.

APPENDIX D:

List of streams surveyed using ODFW Aquatic Inventory Methods but not chosen for potential restoration.

BASIN	STREAM	TRIBUTARY OF	REACH
MAIN UMPQUA	ANDREWS CR.	BILLY CR.	4
	ASKER CR.	ELK CR.	1
	BANKS CR.	CALAPOOYA RIVER	2
	BEAR CR.	BILLY CR.	2
	BEAR CR.	HUBBARD CR.	1
	BEAR CR.	HUBBARD CR.	2
	BEAR CR.	HUBBARD CR.	3
	BEAR CR.	PASS CR.	3
	BEAR CR.	YELLOW CR.	3
	BEAR CR.	YELLOW CR.	4
	BIG TOM FOLLEY CR.	ELK CR.	1
	BIG TOM FOLLEY CR.	ELK CR.	2
	BIG TOM FOLLEY CR.	ELK CR.	5
	BIG TOM FOLLEY CR.	ELK CR.	6
	BLUE HOLE CR.	BRUSH CR.	2
	BLUFF CR.	HUCKLEBERRY CR.	1
	BOYD CR.	MILL RIVER	1
	BRADS CR.	UMPQUA RIVER	3
	BRADS CR. TRIB A	BRADS CR.	3
	BRADS CR. TRIB A	BRADS CR.	4
	BRUSH CR.	ELK CR.	2
	BRUSH CR.	ELK CR.	6
	BRUSH CR.	ELK CR.	7
	BUCK CR.	PASS CR.	3
	BUCK CR. (CAMP)	CAMP CR.	2
	BUCK CR. (CAMP)	CAMP CR.	3
	BUFFALO CR.	HUBBARD CR.	1
	BUFFALO CR.	HUBBARD CR.	2
	BUFFALO CR.	HUBBARD CR.	3
	CALAPOOYA CR.	UMPQUA RIVER	1
	CALAPOOYA CR.	UMPQUA RIVER	2
	CALAPOOYA CR.	UMPQUA RIVER	3
	CALAPOOYA CR.	UMPQUA RIVER	4
	CALAPOOYA CR.	UMPQUA RIVER	5
	CALAPOOYA CR.	UMPQUA RIVER	6
	CALAPOOYA CR.	UMPQUA RIVER	7
	CALAPOOYA CR.	UMPQUA RIVER	8
	CALAPOOYA CR.	UMPQUA RIVER	9
	CALAPOOYA CR.	UMPQUA RIVER	10
	CALAPOOYA CR.	UMPQUA RIVER	11
	CAMP CR.	HUBBARD CR.	1
	CAMP CR.	HUBBARD CR.	2
	CAMP CR.	MILL CR.	1
	CAMP CR.	MILL CR.	2
	CAMP CR.	MILL CR.	3
	CAMP CR.	MILL CR.	4
	CAMP CR.	MILL CR.	5
	CAMP CR.	MILL CR.	6
	CAMP CR.	MILL CR.	7

BASIN	STREAM	TRIBUTARY OF	REACH
MAIN UMPQUA	CASE KNIFE CR.	MINER CR.	1
	CHARLOTTE CR.	UMPQUA RIVER	1
	CHARLOTTE CR.	UMPQUA RIVER	3
	CHARLOTTE CR.	UMPQUA RIVER	4
	COON CR.	CALAPOOYA CR.	3
	COON CR.	CALAPOOYA CR.	4
	COON CR.	CALAPOOYA CR.	5
	COUGAR CR.	UMPQUA RIVER	4
	COUGAR CR.	UMPQUA RIVER	5
	COUGAR CR.	UMPQUA RIVER	6
	COUGAR CR.	UMPQUA RIVER	7
	COUGAR CR. TRIB. #1	COUGAR CR.	4
	DODGE CANYON CR.	CALAPOOYA CR.	2
	DODGE CANYON CR.	CALAPOOYA CR.	5
	DOE CR.	BEAR CR.	1
	DOE CR.	BEAR CR.	2
	DOE CR.	BEAR CR.	3
	DOE CR.	BEAR CR.	4
	FIELD CR.	GASSY CR.	2
	FITZPATRICK CR.	UMPQUA RIVER	3
	FIVE POINT CANYON CR.	BILLY CR.	2
	FRANKLIN CR.	UMPQUA RIVER	2
	FRANKLIN CR.	UMPQUA RIVER	3
	FRANKLIN CR.	UMPQUA RIVER	4
	GASSY CR.	CALAPOOYA CR.	3
	GASSY CR.	CALAPOOYA CR.	5
	GOSSETT CR.	OLDHAM CR.	3
	HANEY CR.	OLDHAM CR.	1
	HANEY CR.	OLDHAM CR.	3
	HANEY CR.	OLDHAM CR.	4
	HEDDIN CR.	UMPQUA RIVER	2
	HEDDIN CR.	UMPQUA RIVER	5
	HINKLE CR.	CALAPOOYA CR.	1
	HINKLE CR.	CALAPOOYA CR.	3
	HINKLE CR.	CALAPOOYA CR.	4
	HINKLE CR.	CALAPOOYA CR.	5
	HINKLE CR.	CALAPOOYA CR.	6
	HOUSE CR.	PARADISE CR.	2
	HUBBARD CR.	UMPQUA RIVER	1
	HUBBARD CR.	UMPQUA RIVER	2
	HUBBARD CR.	UMPQUA RIVER	3
	HUBBARD CR.	UMPQUA RIVER	4
	HUBBARD CR.	UMPQUA RIVER	7
	HUBBARD CR.	UMPQUA RIVER	8
	HUBBARD CR.	UMPQUA RIVER	9
	HUBBARD CR. TRIB. #1	HUBBARD CR.	1
	HUBBARD CR. TRIB. #1	HUBBARD CR.	2
	HUCKLEBERRY CR.	N.E. FK. ROCK CR.	1
	HUCKLEBERRY CR.	N.E. FK. ROCK CR.	2
	HUCKLEBERRY CR.	N.E. FK. ROCK CR.	3
	JACKSON CR. TRIB. #1	JACKSON CR.	1
	LEES CR.	CURTIS CR.	3
	LITTLE CAMP CR.	CAMP CR.	3
	LITTLE CANYON CR.	UMPQUA RIVER	3
	LITTLE CANYON CR.	UMPQUA RIVER	4
	LITTLE MILL CR.	UMPQUA RIVER	1

BASIN	STREAM	TRIBUTARY OF	REACH
MAIN UMPQUA	LITTLE PARADISE CR.	PARADISE CR.	4
	LITTLE SAND CR.	SAND (BIG SAND) CR.	3
	LITTLE SAND CR.	SAND (BIG SAND) CR.	4
	LITTLE WOLF CR.	WOLF CR.	1
	LITTLE WOLF CR.	WOLF CR.	3
	LOST CR.	UMPQUA RIVER	4
	LOST CR.	UMPQUA RIVER	5
	LOST CR.	UMPQUA RIVER	6
	LUTSINGER CR.	UMPQUA RIVER	4
	LUTSINGER CR.	UMPQUA RIVER	5
	LUTSINGER CR.	UMPQUA RIVER	6
	LUTSINGER CR.	UMPQUA RIVER	7
	LUTSINGER CR. TRIB. #1	LUTSINGER CR.	1
	LUTSINGER CR. TRIB. #1	LUTSINGER CR.	3
	MARTIN CR.	UMPQUA RIVER	1
	MARTIN CR.	UMPQUA RIVER	2
	MARTIN CR.	UMPQUA RIVER	3
	MARTIN CR. TRIB. #1	MARTIN CR.	1
	MARTIN CR. TRIB. #1	MARTIN CR.	2
	MCCOMAS CR.	ROCK CR.	1
	MCCOMAS CR.	ROCK CR.	2
	MCCOMAS CR.	ROCK CR.	3
	MCCOMAS CR.	ROCK CR.	4
	MCGEE CR.	UMPQUA RIVER	1
	MCGEE CR.	UMPQUA RIVER	3
	MCGEE CR.	UMPQUA RIVER	4
	MEADOW CR.	LITTLE SAND CR.	1
	MEHL CR.	UMPQUA RIVER	4
	MID. FK. CALAPOOYA CR.	CALAPOOYA CR.	1
	MID. FK. CALAPOOYA CR.	CALAPOOYA CR.	2
	MILL CR.	OLDHAM CR.	1
	MILL CR.	OLDHAM CR.	2
	MILL CR.	OLDHAM CR.	3
	MILLER CR.	ROCK CR.	2
	MILLER CR.	ROCK CR.	3
	MILLER CR.	ROCK CR.	4
	MILLER CR.	ROCK CR.	5
	N. FK. CALAPOOYA CR.	CALAPOOYA CR.	1
	N. FK. CALAPOOYA CR.	CALAPOOYA CR.	2
	N. FK. CALAPOOYA CR.	CALAPOOYA CR.	3
	N. FK. CALAPOOYA CR.	CALAPOOYA CR.	4
	N. FK. HINKLE CR.	HINKLE CR.	1
	N. FK. HINKLE CR.	HINKLE CR.	2
	N. FK. HINKLE CR.	HINKLE CR.	3
	N.E. FK. ROCK CR.	ROCK CR.	1
	N.E. FK. ROCK CR.	ROCK CR.	2
	N.E. FK. ROCK CR.	ROCK CR.	3
	N.E. FK. ROCK CR.	ROCK CR.	4
	N.E. FK. ROCK CR.	ROCK CR.	5
	N.E. FK. ROCK CR.	ROCK CR.	6
	OLDHAM CR.	CALAPOOYA CR.	1
	OTTER CR.	CAMP CR.	2
	PARADISE CR.	UMPQUA RIVER	7
	PARADISE CR. TRIB. #2	PARADISE CR.	2
	PARADISE CR. TRIB. #2	PARADISE CR.	3
	PASS CR.	ELK CR.	1

BASIN	STREAM	TRIBUTARY OF	REACH
MAIN UMPQUA	PASS CR.	ELK CR.	2
	PASS CR. TRIB. #1	PASS CR.	1
	PASS CR. TRIB. #1	PASS CR.	2
	PATTERSON CR.	WEATHERLY CR.	1
	PHEASANT CR.	PASS CR.	3
	POLLOCK CR.	CALAPOOYA CR.	5
	POLLOCK CR.	CALAPOOYA CR.	6
	POLLOCK CR.	CALAPOOYA CR.	7
	RADER CR.	WOLF CR.	4
	RADER CR. TRIB #2	RADER CR.	1
	RADER CR. TRIB #3B	RADER CR. TRIB #3	1
	RADER CR. TRIB #4	RADER CR.	1
	RADER CR. TRIB #5	RADER CR.	1
	RADER CR. TRIB #6	RADER CR.	1
	ROCK CR. TRIB. #1	ROCK CR.	1
	ROCK CR. TRIB. #2	ROCK CR.	1
	ROCK CR. TRIB. #2	ROCK CR.	2
	ROCK CR. TRIB. #2	ROCK CR.	3
	SADDLE BUTTE CR.	BIG TOM FOLLEY CR.	2
	SAND (BIG SAND) CR.	PASS CR.	3
	SAND (BIG SAND) CR.	PASS CR.	4
	SAND CR. TRIB #1	SAND (BIG SAND) CR.	1
	SLIDE CR.	GASSY CR.	1
	SLIDE CR.	GASSY CR.	2
	SLIDE CR.	GASSY CR.	3
	SQUAW CR.	BRUSH CR.	3
	TAYLOR CR.	LITTLE SAND CR.	1
	TAYLOR CR.	LITTLE SAND CR.	2
	THISTLEBURN CR.	BRUSH CR.	3
	THISTLEBURN CR.	BRUSH CR.	4
	WAGGONER CR.	UMPQUA RIVER	4
	WAGGONER CR.	UMPQUA RIVER	5
	WHITE CR.	CALAPOOYA CR.	1
	WHITE CR.	CALAPOOYA CR.	2
	WHITE CR.	CALAPOOYA CR.	3
	WILLIAMS CR.	CALAPOOYA CR.	4
	WINCHESTER CR.	WINCHESTER BAY	4
	WOLF CR.	UMPQUA RIVER	1
	WOLF CR.	UMPQUA RIVER	3
	WOLF CR.	UMPQUA RIVER	4
	WOLF CR.	UMPQUA RIVER	5
	WOLF CR.	UMPQUA RIVER	6
	YELLOW CR.	UMPQUA RIVER	2
	YELLOW CR.	UMPQUA RIVER	5
	YELLOW CR.	UMPQUA RIVER	6
	YONCALLA CR.	ELK CR.	2
	ZIG ZAG CR.	N.E. FK. ROCK CR.	1
	ZIG ZAG CR.	N.E. FK. ROCK CR.	2
	ZIG ZAG CR. (N. FK.)	N.E. FK. ROCK CR.	3
	ZIG ZAG CR. (S. FK.)	N.E. FK. ROCK CR.	4
NORTH UMPQUA	BOND CR.	LITTLE RIVER	1
	BOND CR.	LITTLE RIVER	2
	BOULDER CR.	CAVITT CR.	3
	BOULDER CR.	CAVITT CR.	4
	BOULDER CR.	CAVITT CR.	5
	BUCKSHOT CR.	CAVITT CR.	1

BASIN	STREAM	TRIBUTARY OF	REACH
NORTH UMPQUA	CANTON CR.	STEAMBOAT CR.	1
	CANTON CR.	STEAMBOAT CR.	2
	CANTON CR.	STEAMBOAT CR.	3
	CANTON CR.	STEAMBOAT CR.	4
	CANTON CR.	STEAMBOAT CR.	5
	CANTON CR.	STEAMBOAT CR.	6
	CAVITT CR.	LITTLE RIVER	1
	CAVITT CR.	LITTLE RIVER	2
	CAVITT CR.	LITTLE RIVER	4
	CAVITT CR.	LITTLE RIVER	5
	CAVITT CR.	LITTLE RIVER	6
	CAVITT CR.	LITTLE RIVER	7
	CAVITT CR.	LITTLE RIVER	8
	CAVITT CR.	LITTLE RIVER	9
	CAVITT CR.	LITTLE RIVER	11
	CEDAR CR. (S. FK.)	STEAMBOAT CR.	5
	CHILCOOT CR.	CANTON CR.	2
	CHILCOOT CR.	CANTON CR.	4
	CLOVER CR.	NORTH UMPQUA RIVER	3
	CONLEY CR.	ROCK CR.	2
	CONLEY CR.	ROCK CR.	3
	COPPERHEAD CR.	CAVITT CR.	3
	COPPERHEAD CR.	CAVITT CR.	4
	DIXON CR.	NORTH UMPQUA RIVER	2
	DIXON CR.	NORTH UMPQUA RIVER	3
	E. FK. ROCK CR.	ROCK CR.	1
	E. FK. ROCK CR.	ROCK CR.	2
	E. FK. ROCK CR.	ROCK CR.	4
	E. PASS CR.	PASS CR.	1
	E. PASS CR.	PASS CR.	4
	EGGLESTRON CR.	WOLF CR.	1
	EGGLESTRON CR.	WOLF CR.	2
	EMILE CR.	LITTLE RIVER	1
	EMILE CR.	LITTLE RIVER	2
	EMILE CR.	LITTLE RIVER	3
	EMILE CR.	LITTLE RIVER	4
	ENGLES CR.	LITTLE RIVER	1
	EVARTS CR.	CAVITT CR	2
	EVARTS CR.	CAVITT CR.	3
	FAIRVIEW CR.	NORTH UMPQUA RIVER	1
	FAIRVIEW CR.	NORTH UMPQUA RIVER	2
	FAIRVIEW CR.	NORTH UMPQUA RIVER	3
	FALL CR.	LITTLE RIVER	3
	FALL CR.	NORTH UMPQUA RIVER	1
	FALL CR.	NORTH UMPQUA RIVER	2
	FRANCIS CR.	CANTON CR.	3
	FRENCH CR.	NORTH UMPQUA RIVER	4
	GREENMAN CR.	LITTLE RIVER	1
	GREENMAN CR.	LITTLE RIVER	2
	GREENMAN CR.	LITTLE RIVER	3
	HARRINGTON CR.	ROCK CR.	2
	HARRINGTON CR.	ROCK CR.	3
	HIPOWER CR.	CANTON CR.	1
	HIPOWER CR.	CANTON CR.	2
	HONEY CR.	NORTH UMPQUA RIVER	2
	HONEY CR.	NORTH UMPQUA RIVER	3

BASIN	STREAM	TRIBUTARY OF	REACH
NORTH UMPQUA	HONEY CR. TRIB A	HONEY CR.	1
	HONEY CR. TRIB A	HONEY CR.	2
	HORSE HEAVEN CR.	STEAMBOAT CR.	1
	HORSE HEAVEN CR.	STEAMBOAT CR.	4
	JACKSON CR.	NORTH UMPQUA RIVER	3
	JIM CR.	LITTLE RIVER	2
	JIM CR.	LITTLE RIVER	6
	KELLY CR.	ROCK CR.	2
	KELLY CR.	ROCK CR.	3
	KELLY CR.	ROCK CR.	4
	LITTLE RIVER	NORTH UMPQUA RIVER	1
	LITTLE RIVER	NORTH UMPQUA RIVER	2
	LITTLE RIVER	NORTH UMPQUA RIVER	3
	LITTLE RIVER	NORTH UMPQUA RIVER	4
	LOST BUCKET CR.	CANTON CR.	1
	MCKAY CR.	CAVITT CR.	2
	MCKINLEY CR.	CANTON CR.	3
	MILL CR.	CAVITT CR.	1
	MILL CR.	CAVITT CR.	2
	N. FK. CEDAR CR.	CEDAR CR.	5
	N. FK. OF E. FK. ROCK CR.	ROCK CR.	1
	N. FK. OF E. FK. ROCK CR.	ROCK CR.	3
	N. FK. OF E. FK. ROCK CR.	ROCK CR.	4
	NEGRO CR.	LITTLE RIVER	1
	NEGRO CR.	LITTLE RIVER	2
	NEGRO CR.	LITTLE RIVER	3
	NEGRO CR.	LITTLE RIVER	4
	NEGRO CR. TRIB. #1	NEGRO CR.	1
	NEGRO CR. TRIB. #1	NEGRO CR.	2
	NEGRO CR. TRIB. #1	NEGRO CR.	3
	NEGRO CR. TRIB. #1	NEGRO CR.	4
	OAK CR.	NORTH UMPQUA RIVER	5
	PASS CR.	CANTON CR.	1
	PASS CR.	CANTON CR.	2
	PASS CR.	CANTON CR.	3
	PASS CR.	CANTON CR.	4
	ROCK CR.	NORTH UMPQUA RIVER	1
	ROCK CR.	NORTH UMPQUA RIVER	2
	ROCK CR.	NORTH UMPQUA RIVER	3
	ROCK CR.	NORTH UMPQUA RIVER	4
	ROCK CR.	NORTH UMPQUA RIVER	5
	ROCK CR.	NORTH UMPQUA RIVER	6
	SALMON CR.	CANTON CR.	1
	SALMON CR.	CANTON CR.	2
	SHOUP CR.	ROCK CR.	1
	SHOUP CR.	ROCK CR.	2
	SHOUP CR.	ROCK CR.	3
	SPRINGER CR.	CAVITT CR	1
	SPRINGER CR.	CAVITT CR	2
	STONY CR.	ROCK CR.	2
	STONY CR.	ROCK CR.	3
	SURPRISE CR.	N. FK. OF E. FK. ROCK CR.	2
	SUSAN CR.	NORTH UMPQUA RIVER	2
	SUSAN CR.	NORTH UMPQUA RIVER	3
	SUSAN CR.	NORTH UMPQUA RIVER	4
	SUSAN CR.	NORTH UMPQUA RIVER	5
	SUTHERLIN CR.	PLATT I RESERVOIR	1

BASIN	STREAM	TRIBUTARY OF	REACH
NORTH UMPQUA	TUTTLE CR.	CAVITT CR.	1
	W. FK. WOLF CR.	WOLF CR.	1
	W. FK. WOLF CR.	WOLF CR.	2
	W. FK. WOLF CR.	WOLF CR.	3
	WAPITI CR.	N. FK. OF E. FK. ROCK CR.	2
	WAPITI CR.	N. FK. OF E. FK. ROCK CR.	3
	WHITE ROCK CR.	CAVITT CR.	2
	WHITE ROCK CR.	CAVITT CR.	3
	WILLIAMS CR.	NORTH UMPQUA RIVER	1
	WILLIAMS CR.	NORTH UMPQUA RIVER	2
	WILLIAMS CR.	NORTH UMPQUA RIVER	3
	WOLF CR.	LITTLE RIVER	1
	WOLF CR.	LITTLE RIVER	2
	WOLF CR.	LITTLE RIVER	3
	WOLF CR.	LITTLE RIVER	4
SMITH RIVER	BEAVER CR.	W. FK. OF SMITH RIVER	4
	BIG CR. TRIB A	BIG CR.	2
	BUCK CR. (SMITH)	SMITH RIVER	3
	BUM CR.	SOUTH SISTER CR.	3
	CEDAR CR.	N. FK. SMITH RIVER	1
	CHAPMAN CR.	N. FK. SMITH RIVER	3
	COON CR.	W. FK. OF SMITH RIVER	3
	COON CR.	W. FK. OF SMITH RIVER	4
	CRANE CR.	W. FK. OF SMITH RIVER	3
	E.FK. MOSETOWN CR.	MOSETOWN CR.	2
	E.FK. MOSETOWN CR.	MOSETOWN CR.	3
	GOLD CR.	W. FK. OF SMITH RIVER	3
	HALFWAY CR.	SMITH RIVER	4
	HALFWAY CR.	SMITH RIVER	6
	HERB CR.	N. SISTER CR.	3
	HOLDEN CR.	NOEL CR.	2
	JEFF CR.	SOUTH SISTER CR.	2
	JOHNSON CR.	N. FK. SMITH RIVER	2
	JOHNSON CR.	N. FK. SMITH RIVER	3
	KENTUCKY CR.	N. FK. SMITH RIVER	1
	L. S FK SMITH TRIB #19	LITTLE S. FK. SMITH RIVER	1
	L. S FK SMITH TRIB #22	LITTLE S. FK. SMITH RIVER	1
	L. S FK SMITH TRIB #23	LITTLE S. FK. SMITH RIVER	1
	L. S FK SMITH TRIB #24	LITTLE S. FK. SMITH RIVER	1
	LITTLE S. FK. SMITH RIVER	SOUTH FK. SMITH RIVER	1
	MID. FK. N.FK. SMITH	N. FK. SMITH RIVER	1
	M.. FK.N.FK.SMITH R. TRIB #1	M. FK. N.FK. SMITH RIVER	1
	MOORE CR.	W. FK. OF SMITH RIVER	2
	MOORE CR.	W. FK. OF SMITH RIVER	3
	MOORE CR.	W. FK. OF SMITH RIVER	4
	N. FK. SMITH RIVER	SMITH RIVER	1
	N. FK. SMITH RIVER	SMITH RIVER	2
	N. FK. SMITH RIVER	SMITH RIVER	3
	N. FK. SMITH RIVER	SMITH RIVER	4
	N. FK. SMITH RIVER	SMITH RIVER	5
	N. FK. SMITH RIVER	SMITH RIVER	6
	N. SISTER CR.	SMITH RIVER	5
	NOEL CR.	SMITH RIVER	3
	PAXTON CR.	N. FK. SMITH RIVER	1
	PERKINS CR.	WASSON CR.	1
	PERKINS CR.	WASSON CR.	3
	RAILROAD CR.	N. FK. SMITH RIVER	2

BASIN	STREAM	TRIBUTARY OF	REACH
SMITH RIVER	RUSSELL CR.	N. SISTER CR.	2
	RUSSELL CR.	N. SISTER CR.	3
	S. FK. SMITH RIVER	SMITH RIVER	1
	S. FK. SMITH RIVER	SMITH RIVER	2
	S. FK. SMITH RIVER	SMITH RIVER	3
	S. FK. SMITH TRIB #13	SOUTH FK. SMITH RIVER	1
	S. SISTER CR.	SMITH RIVER	1
	S. SISTER CR.	SMITH RIVER	6
	SCARE CR.	SMITH RIVER	1
	SCARE CR.	SMITH RIVER	5
	SPENCER CR.	SMITH RIVER	3
	VINCENT CR.	SMITH RIVER	1
	VINCENT CR.	SMITH RIVER	2
	VINCENT CR.	SMITH RIVER	3
	W. BR. N.FK. SMITH RIVER	N.FK. SMITH RIVER	1
	W. BR. N.FK. SMITH RIVER	N.FK. SMITH RIVER	4
	W. BR. N.FK. SMITH TRIB #1	W. BRANCH N.FK. SMITH	1
	W. BR. N.FK. SMITH TRIB #1	W. BRANCH N.FK. SMITH	2
	W. FK. OF SMITH RIVER	SMITH RIVER	1
	W. FK. OF SMITH RIVER	SMITH RIVER	2
	W. FK. OF SMITH RIVER	SMITH RIVER	3
	W. FK. OF SMITH RIVER	SMITH RIVER	4
	W. FK. OF SMITH RIVER	SMITH RIVER	5
	W. FK. OF SMITH RIVER	SMITH RIVER	8
	W. FK. OF SMITH RIVER	SMITH RIVER	9
	WASSON CR.	SMITH RIVER	1
	WASSON CR.	SMITH RIVER	2
	WASSON CR.	SMITH RIVER	3
	WASSON CR.	SMITH RIVER	5
	WASSON CR.	SMITH RIVER	9
	WASSON CR. TRIB #1	WASSON CR.	1
	WASSON CR. TRIB #1	WASSON CR.	3
	WASSON CR. TRIB #2	WASSON CR.	4
	WASSON CR. TRIB #2	WASSON CR.	5
	YELLOW CR.	SMITH RIVER	2
SOUTH UMPQUA	ASH CR.	COW CR.	3
	ASH CR.	COW CR.	4
	BARRETT CR.	RICE CR.	2
	BATTLE CR.	COW CR.	1
	BEALS CR.	SOUTH UMPQUA RIVER	4
	BEALS CR. TRIB #1	BEALS CR.	1
	BEAR CR.	W. FK. COW CR.	1
	BEAR CR.	W. FK. COW CR.	2
	BEAR CR.	W. FK. COW CR.	3
	BEAR CR. (BERRY)	BERRY CR.	4
	BEAR CR., TRIBUTARY 1	BEAR CR.	1
	BEAR CR., TRIBUTARY 2	BEAR CR.	1
	BEAR CR., TRIBUTARY 3	BEAR CR.	1
	BEAR CR., TRIBUTARY 4	BEAR CR.	1
	BEATTY CR.	COW CR.	1
	BERRY CR.	OLALLA CR.	2
	BERRY CR.	OLALLA CR.	5
	BLACKHORSE CR.	WHITEHORSE CR.	2
	BOBBY CR.	W. FK. COW CR.	1
	BOBBY CR., TRIBUTARY 1	BOBBY CR.	1
	BONNIE CR.	RIFFLE CR.	1
	BONNIE CR.	RIFFLE CR.	2

BASIN	STREAM	TRIBUTARY OF	REACH
SOUTH UMPQUA	BONNIE CR., TRIBUTARY A	BONNIE CR.	1
	BONNIE CR., TRIBUTARY A	BONNIE CR.	2
	BUCK CR.	MIDDLE CR.	1
	BUCK CR.	MIDDLE CR.	3
	BUCK CR. (COW)	COW CR.	1
	BUCK FK. CR.	N. MYRTLE CR.	3
	BUCK FK. CR.	N. MYRTLE CR.	4
	BYRON CR.	OLALLA CR.	3
	CANYON CR.	SOUTH UMPQUA RIVER	1
	CANYON CR.	SOUTH UMPQUA RIVER	4
	CANYON CR.	SOUTH UMPQUA RIVER	5
	CANYON CR.	SOUTH UMPQUA RIVER	6
	CATCHING CR.	COW CR.	4
	CATTLE CR.	COW CR.	1
	CATTLE CR.	COW CR.	3
	CEDAR GULCH CR.	MIDDLE CR.	1
	CLARK BRANCH CR.	SOUTH UMPQUA RIVER	1
	COARSE GOLD CR.	BERRY CR.	2
	COFFEE CR.	SOUTH UMPQUA RIVER	2
	COFFEE CR.	SOUTH UMPQUA RIVER	4
	COFFEE CR.	SOUTH UMPQUA RIVER	7
	COFFEE CR.	SOUTH UMPQUA RIVER	8
	COFFEE CR. *	SOUTH UMPQUA RIVER	6
	CORN CR.	SOUTH UMPQUA RIVER	3
	COUNCIL CR. *	COW CR.	2
	COW CR.	SOUTH UMPQUA RIVER	1
	DADS CR.	COW CR.	1
	DADS CR.	COW CR.	3
	DADS CR.	COW CR.	4
	DADS CR., TRIBUTARY A	DADS CR.	1
	DADS CR., TRIBUTARY B	DADS CR.	1
	DARBY CR.	COW CR.	1
	DARBY CR.	COW CR.	2
	DARBY CR.	COW CR.	3
	DAYS CR.	SOUTH UMPQUA RIVER	6
	DEADMAN CR.	SOUTH UMPQUA RIVER	1
	DEADMAN CR.	SOUTH UMPQUA RIVER	2
	DEADMAN CR.	SOUTH UMPQUA RIVER	3
	DEADMAN CR.	SOUTH UMPQUA RIVER	4
	DEADMAN CR.	SOUTH UMPQUA RIVER	5
	DEADMAN CR. TRIB #2	DEADMAN CR.	1
	DEADMAN CR. TRIB #3	DEADMAN CR.	1
	DEER CR.	SOUTH UMPQUA RIVER	1
	DEER CR.	SOUTH UMPQUA RIVER	2
	DEER CR.	SOUTH UMPQUA RIVER	3
	DEER CR.	SOUTH UMPQUA RIVER	4
	DOE CR.	COW CR.	1
	DOE CR.	COW CR.	5
	E. FK. DEADMAN CR.	DEADMAN CR.	1
	E. FK. DEADMAN CR.	DEADMAN CR.	2
	E. FK. DEADMAN CR.	DEADMAN CR.	3
	E. FK. DEADMAN CR. T. #1	E. FK. DEADMAN CR.	1
	E. FK. ELK VALLEY CR.	ELK VALLEY CR.	1
	E. FK. ELK VALLEY CR., T#1	E. FK. ELK VALLEY CR.	1
	E. FK. STOUTS CR.	STOUTS CR.	1
	E. FK. STOUTS CR.	STOUTS CR.	2
	E. FK. STOUTS CR.	STOUTS CR.	3

BASIN	STREAM	TRIBUTARY OF	REACH
SOUTH UMPQUA	E. FK. STOUTS CR. TRIB #15	STOUTS CR.	1
	E.FK.SHIVELY CR.	SHIVELY CR.	1
	E.FK.SHIVELY CR.	SHIVELY CR.	3
	ELK VALLEY CR.	W. FK. COW CR.	1
	ELK VALLEY CR.	W. FK. COW CR.	2
	FATE CR.	DAYS CR.	2
	FROZEN CR.	N. MYRTLE CR.	3
	FROZEN CR.	N. MYRTLE CR.	4
	GOAT TRAIL CR.	W. FK. COW CR.	1
	GOAT TRAIL CR.	W. FK. COW CR.	2
	GOLD MOUNTAIN CR.	W. FK COW CR.	1
	GOLD MTN. CR., TRIB A	GOLD MOUNTAIN CR.	1
	GOLD MTN. CR., TRIB B	GOLD MOUNTAIN CR.	1
	IRON MTN CR.	COW CR.	2
	IRON MTN CR.	COW CR.	3
	JUDD CR.	SOUTH UMPQUA RIVER	3
	JUDD CR.	SOUTH UMPQUA RIVER	4
	JUDD CR.	SOUTH UMPQUA RIVER	5
	KENT CR.	SOUTH UMPQUA RIVER	3
	KENT CR.	SOUTH UMPQUA RIVER	4
	KENT CR.	SOUTH UMPQUA RIVER	5
	LANE CR.	JUDD CR.	3
	LANE CR.	JUDD CR.	4
	LAVADOURE CR.	SOUTH UMPQUA RIVER	1
	LEE CR.	N. MYRTLE CR.	2
	LITTLE DADS CR.	COW CR.	1
	LIVE OAK CR.	UNION CR.	2
	MARION CR.	COW CR.	1
	MARION CR.	COW CR.	2
	MARION CR.	COW CR.	3
	MARTIN CR.	MIDDLE CR.	1
	MARTIN CR.	MIDDLE CR.	2
	MID. FK. DEADMAN CR.	DEADMAN CR.	1
	MID. FK. DEADMAN CR.	DEADMAN CR.	2
	MID. FK. DEADMAN CR.	DEADMAN CR.	3
	MID. FK. DEADMAN CR.	DEADMAN CR.	4
	MID. FK. S. DEER CR.	SOUTH FK. DEER CR.	3
	MIDDLE CR.	COW CR.	1
	MIDDLE CR.	COW CR.	2
	MIDDLE CR.	COW CR.	4
	MYRTLE CR.	SOUTH UMPQUA RIVER	1
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	2
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	3
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	10
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	12
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	13
	MYRTLE CR.(S.FK.)	SOUTH UMPQUA RIVER	14
	MYRTLE CR.(S.FK.) *	SOUTH UMPQUA RIVER	4
	MYRTLE CR.(S.FK.) *	SOUTH UMPQUA RIVER	6
	N. FK. MYRTLE CR.	MYRTLE CR.	2
	N. FK. MYRTLE CR.	MYRTLE CR.	7
	N. FK. MYRTLE CR.	MYRTLE CR.	8
	N.E. FK. STOUTS CR.	STOUTS CR.	1
	N.E. FK. STOUTS CR.	STOUTS CR.	2
	OLALLA CR.	TENMILE CR.	1
	OLALLA CR.	TENMILE CR.	2
	OLALLA CR.	TENMILE CR.	3

BASIN	STREAM	TRIBUTARY OF	REACH
SOUTH UMPQUA	OLALLA CR.	TENMILE CR.	4
	OLALLA CR.	TENMILE CR.	8
	OSHEA CR.	SOUTH UMPQUA RIVER	2
	OSHEA CR.	SOUTH UMPQUA RIVER	3
	OSHEA CR.	SOUTH UMPQUA RIVER	4
	PANTHER CR.	COW CR.	1
	PANTHER CR.	COW CR.	2
	PANTHER CR.	W. FK. COW CR.	1
	PANTHER CR., TRIBUTARY 1	PANTHER CR.	1
	PEAVINE CR.	MIDDLE CR.	3
	PERKINS CR.	COW CR.	1
	PERKINS CR.	COW CR.	2
	PERKINS CR.	COW CR.	3
	PERKINS CR., TRIBUTARY A	PERKINS CR.	1
	POOLE CR.	SOUTH UMPQUA RIVER	2
	RATTLESNAKE CR.	COW CR.	1
	RATTLESNAKE CR.	COW CR.	2
	RATTLESNAKE CR.	COW CR.	3
	RIFFLE CR.	COW CR.	1
	RIFFLE CR.	COW CR.	2
	RIFFLE CR.	COW CR.	3
	RIFFLE CR.	COW CR.	4
	RIFFLE CR., TRIBUTARY A	RIFFLE CR.	1
	RIFFLE CR., TRIBUTARY B	RIFFLE CR.	1
	RIFFLE CR., TRIBUTARY C	RIFFLE CR.	1
	RIFFLE CR., TRIBUTARY C	RIFFLE CR.	2
	RIFFLE CR., TRIBUTARY C	RIFFLE CR.	3
	RISER CR.	SLIDE CR.	2
	RISER CR.	SLIDE CR.	3
	RISER CR.	SLIDE CR.	4
	RUSSELL CR.	COW CR.	2
	S. FK. MIDDLE CR.	MIDDLE CR.	5
	S.W. FK. STOUTS CR.	STOUTS CR.	1
	S.W. FK. STOUTS CR.	STOUTS CR.	2
	SALT CR. (COW)	COW CR.	1
	SALT CR. (COW)	COW CR.	2
	SALT CR. (COW)	COW CR.	3
	SCHULTZ CR.	DEADMAN CR.	1
	SHIVELY CR.	SOUTH UMPQUA RIVER	1
	SHIVELY CR.	SOUTH UMPQUA RIVER	3
	SHOESTRING CR.	ASH CR.	1
	SHOESTRING CR.	ASH CR.	2
	SKULL CR.	COW CR.	1
	SKULL CR.	COW CR.	2
	SKULL CR.	SKULL CR.	1
	SLIDE CR.	N. MYRTLE CR.	3
	SLIDE CR.	N. MYRTLE CR.	4
	SLIDE CR.	W. FK. COW CR.	1
	SLIDE CR.	W. FK. COW CR.	2
	SOLDIER CR.	W. FK. COW CR.	1
	ST. JOHN CR.	SOUTH UMPQUA RIVER	5
	ST. JOHN CR.	SOUTH UMPQUA RIVER	6
	ST. JOHN CR. (CANYON)	W. FK. CANYON CR.	2
	ST. JOHN CR. (CANYON)	W. FK. CANYON CR.	3
	STANLEY CR.	DEADMAN CR.	1
	STEVENS CR.	RATTLESNAKE CR.	1
	STOUTS CR.	SOUTH UMPQUA RIVER	1

BASIN	STREAM	TRIBUTARY OF	REACH
SOUTH UMPQUA	STOUTS CR.	SOUTH UMPQUA RIVER	2
	STOUTS CR.	SOUTH UMPQUA RIVER	3
	STOUTS CR. TRIB #14	STOUTS CR.	1
	STOUTS CR. TRIB #16	STOUTS CR.	1
	STOUTS CR. TRIB #16	STOUTS CR.	2
	SUSAN CR.	COW CR.	1
	SUSAN CR.	COW CR.	2
	TABLE CR.	COW CR.	2
	TABLE CR.	COW CR.	3
	TABLE CR.	COW CR.	4
	THOMPSON CR.	OLALLA CR.	3
	THOMPSON CR.	OLALLA CR.	5
	THOMPSON CR.	OLALLA CR.	7
	TULLER CR.	COW CR.	1
	TULLER CR.	COW CR.	2
	TULLER CR., TRIBUTARY A	TULLER CR.	1
	UNION CR.	COW CR.	1
	UNION CR.	COW CR.	2
	UNION CR.	COW CR.	4
	W. FK. CANYON CR.	CANYON CR.	2
	W. FK. CANYON CR.	CANYON CR.	4
	W. FK. CANYON CR.	CANYON CR.	5
	W. FK. CANYON CR.	CANYON CR.	8
	W. FK. CANYON CR.	CANYON CR.	9
	W. FK. CANYON CR. TRIB #1	CANYON CR.	1
	W. FK. CANYON CR. TRIB #1	CANYON CR.	2
	W. FK. CANYON CR. TRIB #1	CANYON CR.	3
	W. FK. CANYON CR. TRIB #1	CANYON CR.	4
	W. FK. COW CR.	COW CR.	1
	W. FK. COW CR.	COW CR.	2
	W. FK. COW CR.	COW CR.	3
	W. FK. COW CR.	COW CR.	4
	W. FK. COW CR.	COW CR.	5
	W. FK. COW CR.	COW CR.	7
	W. FK. FROZEN CR.	FROZEN CR.	2
	W. FK. FROZEN CR.	FROZEN CR.	3
	W.FK. WILLIS CR.	WILLIS CR.	4
	W.FK. WILLIS CR.	WILLIS CR.	5
	WALKER CR.	W. FK. COW CR.	2
	WALLACE CR.	WALKER CR.	1
	WEAVER CR.	S. MYRTLE CR.	3
	WEAVER CR.	S. MYRTLE CR.	4
	WILDCAT CR.	OLALLA CR.	2
	WILLINGHAM CR.	OLALLA CR.	5
	WILLIS CR.	SOUTH UMPQUA RIVER	3
	WILLIS CR.	SOUTH UMPQUA RIVER	5
	WINDY CR.	COW CR.	3
	WINDY CR.	COW CR.	6
	WOOD CR.	DAYS CR.	3
	WOOD CR.	DAYS CR.	4

Umpqua River Basin Description Overview

The Umpqua River basin drains approximately 5,500 square miles, or 3.2 million acres, of land, which is essentially analogous to Douglas County. The mainstem Umpqua forks into the North and South Umpqua Rivers, 111 miles upstream of its confluence with the ocean at Reedsport. Land uses in the Umpqua Basin include forestry, agricultural and urban. Douglas County Land Use Planning Department estimates that approximately 90 percent of the county is forested lands, of which 51 percent is administered by the federal government . Agricultural land includes both crop and grazing land and accounts for about 10 percent of the county, and the remaining is classified as Urban. Ten communities have populations over 1,000 and one exceeds 10,000. While urban areas account for a small percentage of the total land mass in the Umpqua Basin, the impact of sewage discharges (including both accidental and intentional) impacts water quality throughout the drainage.

The entire Umpqua Basin is closed to fishing for Umpqua searun cutthroat trout, which are listed as endangered under the Federal Endangered Species Act. Fisheries exist for a variety of other species including chinook, coho, steelhead (proposed federal threatened species), sturgeon, bass, shad, and striped bass. Whitewater rafting, kayaking, canoeing, hiking, camping, mountain biking and horse trail riding are also important recreational activities throughout the Umpqua River basin.

There are four major sub-basins within the Umpqua Basin (Mainstem Umpqua, Smith River, North Umpqua, and South Umpqua). These sub-basins are characterized by a wide variety of geomorphological characteristics unique to their drainages and will be described individually. The Umpqua River Estuary is also a unique system. Head of tide on the Umpqua occurs 26 river miles upstream on the mainstem and 24 river miles upstream on the Smith River. It covers an area of approximately 11,000 acres in size. The estuary is home to over 40 species of fish and a wide variety of birds and mammals.

Mainstem Umpqua River

The mainstem of the Umpqua River begins at the confluence of the North and South Umpqua rivers and flows northwesterly for 111 miles before meeting the Pacific Ocean at Winchester Bay. The sub-basin drains approximately 1168 square miles. Some important fish-producing tributaries include the Calapooya, Elk, Paradise, Weatherly, Mill, Franklin and Dean creeks. A natural barrier to anadromous fish passage exists on Mill Creek at Loon Lake.

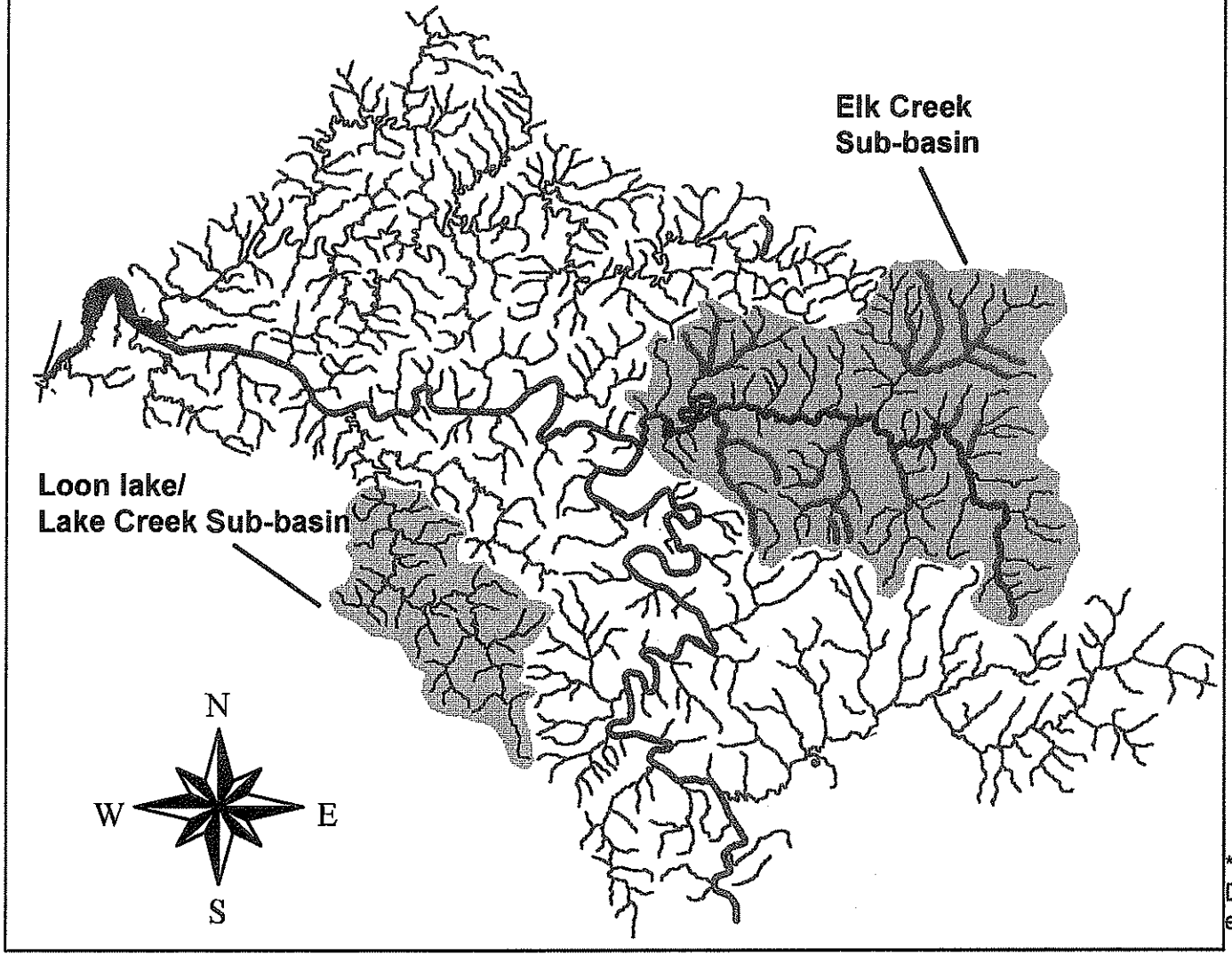
The majority of land on the mainstem Umpqua is privately owned with agricultural and residential uses predominating. Most of the public land present on the main Umpqua is managed for timber with some small areas used for recreational purposes. Water quality problems associated with sewage spills or discharges are a common problem during the summer months near the communities of Roseburg, Winchester Bay and Reedsport.

Fisheries exist for hatchery coho, fall and spring chinook, winter and summer steelhead, sturgeon, striped bass and shad. Fish species present in the mainstem Umpqua include; coho, winter steelhead (proposed federal threatened species), Umpqua sea-run cutthroat trout (state vulnerable & federal endangered species), resident cutthroat trout (federal endangered species), white sturgeon, green sturgeon, Umpqua chub (state vulnerable species), Pacific lamprey (state vulnerable species), western brook lamprey, American shad, smallmouth bass, largemouth bass, brown bullheads, striped bass, Umpqua squawfish, largescale sucker, redside shiner perch, blackside dace, Umpqua dace, three-spine stickleback, coastrange sculpin, prickly sculpin, riffle sculpin, and reticulate sculpin.

Restoration Considerations

- Projects previously completed or in progress. A complete inventory of restoration projects was not done for this report. There are, however, two known projects underway. The habitat restoration in the Brush Creek drainage is a large effort involving instream structures, riparian hardwood conversion, and containment of upslope sediment sources. Work on Rock Creek (Pass Creek) involves instream placement of large woody debris, primarily rootwads.
- Currently identified opportunities. We have identified 59 potential restoration reaches in the Mainstem Umpqua sub-basin. These are concentrated in the Elk Creek drainage, a high priority area for coho.
- Potential future opportunities. A substantial number of restoration reaches could be identified within the Mainstem Umpqua in the future. Important tributaries that may have opportunities include Dean, Mill, Weatherly, Paradise, Calapooya, and Wolf Creeks.

Main Umpqua River Restoration Reaches



Priority Watershed
Coho, Cutthroat and
Winter Steelhead

Priority Watershed
Cutthroat Only

Potential Restoration
Reaches*

*General representation of reach location. Do not use for locating beginning and ending points of reaches.

STREAM: ANDREWS CREEK — REACH: 1

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.8
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	1,868.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	762	CHANNEL WIDTHS/POOL:	11.4
RIPARIAN VEG:	Mixed(15-30CM DBH)	LARGE BOULDERS/100m:	2.57
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	65
PIECES OF WOOD (0.15 x 3m)/100 m.:	2.5	KEY PIECES LWD/100m:	0

STREAM: ANDREWS CREEK — REACH: 2

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	4.6	REACH LENGTH (m):	1,120.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	61	CHANNEL WIDTHS/POOL:	22.3
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	8.93
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	39
PIECES OF WOOD (0.15 x 3m)/100 m.:	2.9	KEY PIECES LWD/100m:	0

STREAM: ANDREWS CREEK

REACH: 3

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces

VALLEY WIDTH INDEX: 3.9

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 2.1

ACTIVE CHANNEL WIDTH (METERS): 4.4

REACH LENGTH (m): 1,931.00

SITE TRAITS

LAND USE: Second Growth

OPEN SKY (%): 0

CONIFERS (w/in 30 meters)/100m: 366

CHANNEL WIDTHS/POOL: 12.4

RIPARIAN VEG: Mixed (15-30CM DBH)

LARGE BOULDERS/100m: 3.37

SILT AND ORGANICS IN RIFFLES (%): 11

GRAVEL IN RIFFLES (%): 61

PIECES OF WOOD (0.15 x 3m)/100m: 7.9

KEY PIECES LWD/100m: 0.7

STREAM: BEAR CREEK

REACH: 1

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces

VALLEY WIDTH INDEX: 4.4

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 2.8

ACTIVE CHANNEL WIDTH (METERS): 6.2

REACH LENGTH (m): 3,025.00

SITE TRAITS

LAND USE: Mature Timber

OPEN SKY (%): 7

CONIFERS (w/in 30 meters)/100m: 280

CHANNEL WIDTHS/POOL: 8.8

RIPARIAN VEG: Mixed(15-30CM DBH)

LARGE BOULDERS/100m: 7.97

SILT AND ORGANICS IN RIFFLES (%): 4

GRAVEL IN RIFFLES (%): 39

PIECES OF WOOD (0.15 x 3m)/100 m.: 2.3

KEY PIECES LWD/100m: 0.3

STREAM: BEAR CREEK — REACH: 3

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	4.5	REACH LENGTH (m):	2,877.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	9
CONIFERS (w/in 30 meters)/100m:	203	CHANNEL WIDTHS/POOL:	8.5
RIPARIAN VEG:	Mixed(15-30CM DBH)	LARGE BOULDERS/100m:	0.1
SILT AND ORGANICS IN RIFFLES (%):	24	GRAVEL IN RIFFLES (%):	63
PIECES OF WOOD (0.15 x 3m)/100m:	4.6	KEY PIECES LWD/100m:	0.8

STREAM: BEAR CREEK — REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	15.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	4.1	REACH LENGTH (m):	3,722.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	54
CONIFERS (w/in 30 meters)/1000m:	69	CHANNEL WIDTHS/POOL:	19.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.51
SILT AND ORGANICS IN RIFFLES (%):	26	GRAVEL IN RIFFLES (%):	48
PIECES OF WOOD (0.15 x 3m)/100m:	1.4	KEY PIECES LWD/100m:	0

STREAM: BEAR CREEK — REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	10.3
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	4.2	REACH LENGTH (m):	696.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	27
CONIFERS (w/in 30 meters)/m.:	345	CHANNEL WIDTHS/POOL:	13.8
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	30	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/100m:	7.3	KEY PIECES LWD/100m:	0.6

STREAM: BIG TOM FOLLEY CREEK — REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.6
ACTIVE CHANNEL WIDTH (METERS):	8.9	REACH LENGTH (m):	4,587.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/m.:	N/A	CHANNEL WIDTHS/POOL:	4.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	43.34
SILT AND ORGANICS IN RIFFLES (%):	5	GRAVEL IN RIFFLES (%):	39
PIECES OF WOOD (0.15 x 3m)/100m:	11.9	KEY PIECES LWD/100m:	n/a

STREAM: BIG TOM FOLLEY CREEK REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.1
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	3,372.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/m.:	N/A	CHANNEL WIDTHS/POOL:	8.9
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	18.71
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	49
PIECES OF WOOD (0.15 x 3m)/100m:	18.1	KEY PIECES LWD/100m:	n/a

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STREAM: BIG TOM FOLLEY CREEK TRIB A REACH: 1

TRIBUTARY OF: Big Tom Folley Creek LOCATION: T 21S-R6W 30NE -
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3
CHANNEL FORM:	Alt,. Hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	6.3	REACH LENGTH (m):	2,662.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/m.:	N/A	CHANNEL WIDTHS/POOL:	9.2
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.34
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	53
PIECES OF WOOD (0.15 x 3m)/100m:	6.5	KEY PIECES LWD/100m:	N/A

STREAM: BIG TOM FOLLEY CREEK TRIB A REACH: 2

TRIBUTARY OF: Big Tom Folley Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	3.9	REACH LENGTH (m):	778.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	0
CONIFERS (w/in 30 meters)/m.:	n/a	CHANNEL WIDTHS/POOL:	99.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.39
SILT AND ORGANICS IN RIFFLES (%):		GRAVEL IN RIFFLES (%):	
PIECES OF WOOD (0.15 x 3m)/100 m:	12.7	KEY PIECES LWD/100m:	N/A

STREAM: BILLY CREEK REACH: 1

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	9.4
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.6
ACTIVE CHANNEL WIDTH (METERS):	9.5	REACH LENGTH (m):	2,254.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	20	CHANNEL WIDTHS/POOL:	6.2
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	3.68
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	16
PIECES OF WOOD (0.15 x 3m)/100m:	0.4	KEY PIECES LWD/100m:	0

STREAM: BILLY CREEK — REACH: 2

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	8.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.8
ACTIVE CHANNEL WIDTH (METERS):	8.7	REACH LENGTH (m):	2,422.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	15
CONIFERS (w/in 30 meters)/100m:	163	CHANNEL WIDTHS/POOL:	5.9
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	3.51
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	46
PIECES OF WOOD (0.15 x 3m)/100m:	1.8	KEY PIECES LWD/100m:	0.1

STREAM: BILLY CREEK — REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.3
ACTIVE CHANNEL WIDTH (METERS):	5.7	REACH LENGTH (m):	4,214.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	39
CONIFERS (w/in 30 meters)/100m:	132	CHANNEL WIDTHS/POOL:	6.6
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0.14
SILT AND ORGANICS IN RIFFLES (%):	65	GRAVEL IN RIFFLES (%):	34
PIECES OF WOOD (0.15 x 3m)/100 m:	4.4	KEY PIECES LWD/100m:	0.3

STREAM: BILLY CREEK

REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.5
ACTIVE CHANNEL WIDTH (METERS):	4.5	REACH LENGTH (m):	1,481.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	49
CONIFERS (w/in 30 meters)/100m:	183	CHANNEL WIDTHS/POOL:	10.8
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	14	GRAVEL IN RIFFLES (%):	86
PIECES OF WOOD (0.15 x 3m)/100m:	4.6	KEY PIECES LWD/100m:	0.2

STREAM: BILLY CREEK

REACH: 5

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	2,030.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	17
CONIFERS (w/in 30 meters)/100m:	142	CHANNEL WIDTHS/POOL:	9.1
RIPARIAN VEG:	Mixed(15-30CM DBH)	LARGE BOULDERS/100m:	3.84
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100 m:	3.9	KEY PIECES LWD/100m:	0.6

STREAM: BLUE HOLE CREEK — REACH: 1

TRIBUTARY OF: Brush Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.7
ACTIVE CHANNEL WIDTH (METERS):	5.2	REACH LENGTH (m):	1,339.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	14.3
RIPARIAN VEG:	Conifer (30-50CM DBH)	LARGE BOULDERS/100m:	32.41
SILT AND ORGANICS IN RIFFLES (%):		GRAVEL IN RIFFLES (%):	
PIECES OF WOOD (0.15 x 3m)/100m:	27	KEY PIECES LWD/100m:	N/A

STREAM: BRUSH CREEK — REACH: 1

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	8.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	9.5	REACH LENGTH (m):	622.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	44
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	5.4
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	13.99
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	38
PIECES OF WOOD (0.15 x 3m)/100m:	18.7	KEY PIECES LWD/100m:	n/a

STREAM: BRUSH CREEK — REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	11.1	REACH LENGTH (m):	3,424.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	3
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	4.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	22.66
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/100m:	5.9	KEY PIECES LWD/100m:	n/a

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STREAM: BRUSH CREEK — REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.3
ACTIVE CHANNEL WIDTH (METERS):	8.5	REACH LENGTH (m):	1,739.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	20
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6.1
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.86
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	63
PIECES OF WOOD (0.15 x 3m)/100m:	7.8	KEY PIECES LWD/100m:	n/a

STREAM: BRUSH CREEK — REACH: 5

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4.1
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	8.5	REACH LENGTH (m):	5,306.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	24.37
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	13
PIECES OF WOOD (0.15 x 3m)/100m:	7.8	KEY PIECES LWD/100m:	n/a

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STREAM: BUCK CREEK — REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	2,162.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	40
CONIFERS (w/in 30 meters)/100m:	24	CHANNEL WIDTHS/POOL:	6.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.56
SILT AND ORGANICS IN RIFFLES (%):	32	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/100m:	6.2	KEY PIECES LWD/100m:	0

STREAM: BUCK CREEK — REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Wide Floodplain	VALLEY WIDTH INDEX:	6.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.2
ACTIVE CHANNEL WIDTH (METERS):	5.6	REACH LENGTH (m):	2,733.00

SITE TRAITS

LAND USE:	Heavy Grazing	OPEN SKY (%):	30
CONIFERS (w/in 30 meters)/100m:	305	CHANNEL WIDTHS/POOL:	11.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.26
SILT AND ORGANICS IN RIFFLES (%):	19	GRAVEL IN RIFFLES (%):	34
PIECES OF WOOD (0.15 x 3m)/100m:	6.6	KEY PIECES LWD/100m:	0.3

STREAM: CURTIS CREEK — REACH: 1

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	9	REACH LENGTH (m):	3,196.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	35
CONIFERS (w/in 30 meters)/100m:	17	CHANNEL WIDTHS/POOL:	4.4
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	0.34
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	44
PIECES OF WOOD (0.15 x 3m)/100m:	5.6	KEY PIECES LWD/100m:	0.3

STREAM: CURTIS CREEK — REACH: 2

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	12.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	378.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	38
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	9.9
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	43	GRAVEL IN RIFFLES (%):	58
PIECES OF WOOD (0.15 x 3m)/100m:	5.8	KEY PIECES LWD/100m:	0

STREAM: CURTIS CREEK — REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	9.1
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	7.1	REACH LENGTH (m):	3,287.00

SITE TRAITS

LAND USE:	No Use	OPEN SKY (%):	34
CONIFERS (w/in 30 meters)/100m:	640	CHANNEL WIDTHS/POOL:	10.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.61
SILT AND ORGANICS IN RIFFLES (%):	38	GRAVEL IN RIFFLES (%):	49
PIECES OF WOOD (0.15 x 3m)/100m:	2.6	KEY PIECES LWD/100m:	0.1

STREAM: CURTIS CREEK — REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Wide Floodplain	VALLEY WIDTH INDEX:	2.3
CHANNEL FORM:	Unconstrained Single	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	10.3	REACH LENGTH (m):	883.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	24
CONIFERS (w/in 30 meters)/100m:	671	CHANNEL WIDTHS/POOL:	6.8
RIPARIAN VEG:	Perennial Grasses	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	47	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/100m:	2.5	KEY PIECES LWD/100m:	0.3

STREAM: FITCH CREEK — REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	8.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	2,576.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	34
CONIFERS (w/in 30 meters)/100m:	218	CHANNEL WIDTHS/POOL:	9.2
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	1.48
SILT AND ORGANICS IN RIFFLES (%):	25	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100m:	5.5	KEY PIECES LWD/100m:	0.2

STREAM: FITCH CREEK — REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	4
ACTIVE CHANNEL WIDTH (METERS):	3.2	REACH LENGTH (m):	1,139.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	29
CONIFERS (w/in 30 meters)/100m:	366	CHANNEL WIDTHS/POOL:	22.8
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	54	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/100m:	2.3	KEY PIECES LWD/100m:	0.2

STREAM: FIVE POINT CANYON CREEK — REACH: 1

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	2.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.4
ACTIVE CHANNEL WIDTH (METERS):	11	REACH LENGTH (m):	1,394.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	17
CONIFERS (w/in 30 meters)/100m:	335	CHANNEL WIDTHS/POOL:	7.1
RIPARIAN VEG:	Mixed(15-30CM DBH)	LARGE BOULDERS/100m:	0.07
SILT AND ORGANICS IN RIFFLES (%):	10	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100m:	5.2	KEY PIECES LWD/100m:	1

STREAM: FLAGLER CREEK — REACH: 1

TRIBUTARY OF: Billy Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	6.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	3.8	REACH LENGTH (m):	2,700.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	19
CONIFERS (w/in 30 meters)/100m:	107	CHANNEL WIDTHS/POOL:	16.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0.15
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/100m:	6.2	KEY PIECES LWD/100m:	0.3

STREAM: LITTLE SAND CREEK — REACH: 1

TRIBUTARY OF: Sand (Big Sand) Creek

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	5	REACH LENGTH (m):	244.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	16.3
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	27	GRAVEL IN RIFFLES (%):	48
PIECES OF WOOD (0.15 x 3m)/100m:	6.2	KEY PIECES LWD/100m:	n/a

STREAM: LITTLE SAND CREEK — REACH: 2

TRIBUTARY OF: Sand (Big Sand) Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	3,734.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	16.7
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS/100m:	2.62
SILT AND ORGANICS IN RIFFLES (%):	33	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	8.4	KEY PIECES LWD/100m:	n/a

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STREAM: N FK BIG TOM FOLLEY CREEK — REACH: 1

TRIBUTARY OF: Big Tom Folley Creek

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.1
CHANNEL FORM:	Alt. hillslope/Terrace	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	9.2	REACH LENGTH (m):	3,378.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	42.27
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	69
PIECES OF WOOD (0.15 x 3m)/100m:	11	KEY PIECES LWD/100m:	n/a

STREAM: N FK BIG TOM FOLLEY CREEK REACH: 2

TRIBUTARY OF: Big Tom Folley Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.4
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	1,343.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6.2
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	30.23
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	71
PIECES OF WOOD (0.15 x 3m)/100m:	14.7	KEY PIECES LWD/100m:	n/a

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STREAM: N FK BIG TOM FOLLEY CREEK REACH: 3

TRIBUTARY OF: Big Tom Folley Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	4.9
ACTIVE CHANNEL WIDTH (METERS):	4.1	REACH LENGTH (m):	771.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	0
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	17.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	18.68
SILT AND ORGANICS IN RIFFLES (%):	33	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100m:	10.6	KEY PIECES LWD/ 100m:	n/a

STREAM: PASS CREEK REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.5
ACTIVE CHANNEL WIDTH (METERS):	10.9	REACH LENGTH (m):	6,002.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	36
CONIFERS (w/in 30 meters)/100m:	49	CHANNEL WIDTHS/POOL:	9.1
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	1.17
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	42
PIECES OF WOOD (0.15 x 3m)/100m:	5.4	KEY PIECES LWD/100m:	0.1

STREAM: PASS CREEK REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	6.7	REACH LENGTH (m):	2,949.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	35
CONIFERS (w/in 30 meters)/100m:	20	CHANNEL WIDTHS/POOL:	7.2
RIPARIAN VEG:	Perennial Grasses	LARGE BOULDERS/100m:	5.6
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/100m:	4	KEY PIECES LWD/100m:	0.1

STREAM: PASS CREEK

REACH: 5

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	7	REACH LENGTH (m):	2,709.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	29
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	5.3
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	0.48
SILT AND ORGANICS IN RIFFLES (%):	32	GRAVEL IN RIFFLES (%):	58
PIECES OF WOOD (0.15 x 3m)/100m:	4.2	KEY PIECES LWD/100m:	0.3

STREAM: PASS CREEK

REACH: 6

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	8.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	2,251.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	14
CONIFERS (w/in 30 meters)/100m:	98	CHANNEL WIDTHS/POOL:	7.2
RIPARIAN VEG:	Perennial Grasses	LARGE BOULDERS/100m:	5.6
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/100m:	3.6	KEY PIECES LWD/100m:	0.3

STREAM: PASS CREEK — REACH: 7

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	6.8
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	1,222.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	35
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	23.5
RIPARIAN VEG:	Perennial Grasses	LARGE BOULDERS/100m:	2.45
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/100m:	1	KEY PIECES LWD/100m:	0.2

STREAM: PHEASANT CREEK — REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.6
ACTIVE CHANNEL WIDTH (METERS):	5.3	REACH LENGTH (m):	1,693.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	37
CONIFERS (w/in 30 meters)/100m:	61	CHANNEL WIDTHS/POOL:	7.3
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	47	GRAVEL IN RIFFLES (%):	49
PIECES OF WOOD (0.15 x 3m)/100m:	8.9	KEY PIECES LWD/100m:	0.6

STREAM: PHEASANT CREEK — REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Wide Floodplain	VALLEY WIDTH INDEX:	16.5
CHANNEL FORM:	Unconstrained Single	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	6.8	REACH LENGTH (m):	3,189.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	39
CONIFERS (w/in 30 meters)/100m:	152	CHANNEL WIDTHS/POOL:	6.1
RIPARIAN VEG:	Deciduous	LARGE BOULDERS/100m:	0.09
SILT AND ORGANICS IN RIFFLES (%):	23	GRAVEL IN RIFFLES (%):	35
PIECES OF WOOD (0.15 x 3m)/100m:	6.8	KEY PIECES LWD/100m:	0

STREAM: PHEASANT CREEK — REACH: 4

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Open Valley	VALLEY WIDTH INDEX:	2.8
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	3	REACH LENGTH (m):	649.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	224	CHANNEL WIDTHS/POOL:	6
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	38	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/100m:	4.5	KEY PIECES LWD/100m:	0.3

STREAM: ROCK CREEK REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	12.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	1,754.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	41
CONIFERS (w/in 30 meters)/100m:	152	CHANNEL WIDTHS/POOL:	7.5
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS/100m:	0.51
SILT AND ORGANICS IN RIFFLES (%):	55	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/100m:	7.8	KEY PIECES LWD/100m:	0

STREAM: ROCK CREEK REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	9.3
CHANNEL FORM:	Alt. hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	1,262.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	36
CONIFERS (w/in 30 meters)/100m:	20	CHANNEL WIDTHS/POOL:	12.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0.16
SILT AND ORGANICS IN RIFFLES (%):	19	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	3.8	KEY PIECES LWD/100m:	0.2

STREAM: ROCK CREEK — REACH: 3

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	5,396.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	36
CONIFERS (w/in 30 meters)/100m:	238	CHANNEL WIDTHS/POOL:	10
RIPARIAN VEG:	Mixed(30-50CM DBH)	LARGE BOULDERS/100m:	0.32
SILT AND ORGANICS IN RIFFLES (%):	30	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/100m:	7	KEY PIECES LWD/100m:	0.8

STREAM: ROCK CREEK — REACH: 4

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.8
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	4.1	REACH LENGTH (m):	1,583.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	26
CONIFERS (w/in 30 meters)/100m:	142	CHANNEL WIDTHS/POOL:	5.8
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	11.18
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	70
PIECES OF WOOD (0.15 x 3m)/100m:	16.2	KEY PIECES LWD/100m:	1.8

STREAM: SADDLE BUTTE CREEK — REACH: 1

TRIBUTARY OF: Big Tom Folley Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.9
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.2
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	1,177.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	7.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	17.42
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	40
PIECES OF WOOD (0.15 x 3m)/100m:	9.1	KEY PIECES LWD/100m:	N/A

STREAM: SALT CREEK — REACH: 1

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	11.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	3	REACH LENGTH (m):	699.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	50
CONIFERS (w/in 30 meters)/100m:	152	CHANNEL WIDTHS/POOL:	12.3
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	27	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100m:	7.2	KEY PIECES LWD/100m:	0.3

STREAM: SALT CREEK — REACH: 2

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.3
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	782.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	41
CONIFERS (w/in 30 meters)/100m:	610	CHANNEL WIDTHS/POOL:	8
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	26	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/100m:	7.9	KEY PIECES LWD/100m:	0.5

STREAM: SALT CREEK — REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Wide Floodplain	VALLEY WIDTH INDEX:	2.7
CHANNEL FORM:	Unconstrained Braided	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	7.5	REACH LENGTH (m):	447.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	45
CONIFERS (w/in 30 meters)/100m:	1097	CHANNEL WIDTHS/POOL:	4.3
RIPARIAN VEG:	Perennial Grasses	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	76
PIECES OF WOOD (0.15 x 3m)/100m:	11.4	KEY PIECES LWD/100m:	0.7

STREAM: SALT CREEK — REACH: 4

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	6.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.4
ACTIVE CHANNEL WIDTH (METERS):	4.5	REACH LENGTH (m):	953.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	69
CONIFERS (w/in 30 meters)/100m:	386	CHANNEL WIDTHS/POOL:	7.2
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	54	GRAVEL IN RIFFLES (%):	42
PIECES OF WOOD (0.15 x 3m)/100m:	14.4	KEY PIECES LWD/100m:	3

STREAM: SAND (BIG SAND) CREEK — REACH: 1

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	9.8
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	7.9	REACH LENGTH (m):	2,875.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	25
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	15.3
RIPARIAN VEG:	Shrubs	LARGE BOULDERS/100m:	4.66
SILT AND ORGANICS IN RIFFLES (%):	23	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/100m:	2.4	KEY PIECES LWD/100m:	N/A

STREAM: SAND (BIG SAND) CREEK — REACH: 2

TRIBUTARY OF: Pass Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.1
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	5.3	REACH LENGTH (m):	3,670.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	12
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	25.8
RIPARIAN VEG:	Conifer (30-50CM DBH)	LARGE BOULDERS/100m:	0.76
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	37
PIECES OF WOOD (0.15 x 3m)/100m:	3.5	KEY PIECES LWD/100m:	N/A

STREAM: SQUAW CREEK — REACH: 1

TRIBUTARY OF: Brush Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	13.3
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	327.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	1402	CHANNEL WIDTHS/POOL:	3.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	7.95
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	81
PIECES OF WOOD (0.15 x 3m)/100m:	6.7	KEY PIECES LWD/100m:	0

STREAM: SQUAW CREEK — REACH: 2

TRIBUTARY OF: Brush Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.4
ACTIVE CHANNEL WIDTH (METERS):	3.3	REACH LENGTH (m):	1,583.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	2012	CHANNEL WIDTHS/POOL:	7.6
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	14.09
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	63
PIECES OF WOOD (0.15 x 3m)/100m:	17.3	KEY PIECES LWD/100m:	0.2

STREAM: THISTLEBURN CREEK — REACH: 1

TRIBUTARY OF: Brush Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	6.9	REACH LENGTH (m):	2,358.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	5.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.57
SILT AND ORGANICS IN RIFFLES (%):	15	GRAVEL IN RIFFLES (%):	32
PIECES OF WOOD (0.15 x 3m)/100m:	8.5	KEY PIECES LWD/100m:	n/a

STREAM: THISTLEBURN CREEK REACH: 2

TRIBUTARY OF: Brush Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	2.4
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	2,019.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	27.19
SILT AND ORGANICS IN RIFFLES (%):	14	GRAVEL IN RIFFLES (%):	61
PIECES OF WOOD (0.15 x 3m)/100m:	19	KEY PIECES LWD/ 100m:	n/a

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STREAM: YONCALLA CREEK REACH: 1

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	15
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.3
ACTIVE CHANNEL WIDTH (METERS):	6.5	REACH LENGTH (m):	10,439.00

SITE TRAITS

LAND USE:	MG	OPEN SKY (%):	33
CONIFERS (w/in 30 meters)/100m:	17	CHANNEL WIDTHS/POOL:	16
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	0.11
SILT AND ORGANICS IN RIFFLES (%):	37	GRAVEL IN RIFFLES (%):	37
PIECES OF WOOD (0.15 x 3m)/100m:	1.5	KEY PIECES LWD/100m:	0

STREAM: YONCALLA CREEK REACH: 3

TRIBUTARY OF: Elk Creek
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	15
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.6
ACTIVE CHANNEL WIDTH (METERS):	4.5	REACH LENGTH (m):	1,960.00

SITE TRAITS

LAND USE:	MG	OPEN SKY (%):	33
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	45.8
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):		GRAVEL IN RIFFLES (%):	
PIECES OF WOOD (0.15 x 3m)/100m.:	0.1	KEY PIECES LWD/100m:	0

Smith River Sub-Basin

The Smith River flows in a southwesterly direction to its confluence with the Umpqua River at rivermile 11.5. Smith River is 89.6 miles in length and drains 377 square miles. It has several fish-producing tributaries including Noel Creek, West Fork Smith River, North Fork Smith River, North Fork Sisters Creek and South Fork Sisters Creek. This sub-basin has a history of large-scale landslide activity due to unstable shallow soil layers covering sandstone on steep terrain. This tendency has been exacerbated in the past by poor logging practices throughout the basin which have caused massive damage to salmonid spawning and rearing areas. High turbidity, siltation and sediment deposition are problems common in this watershed.

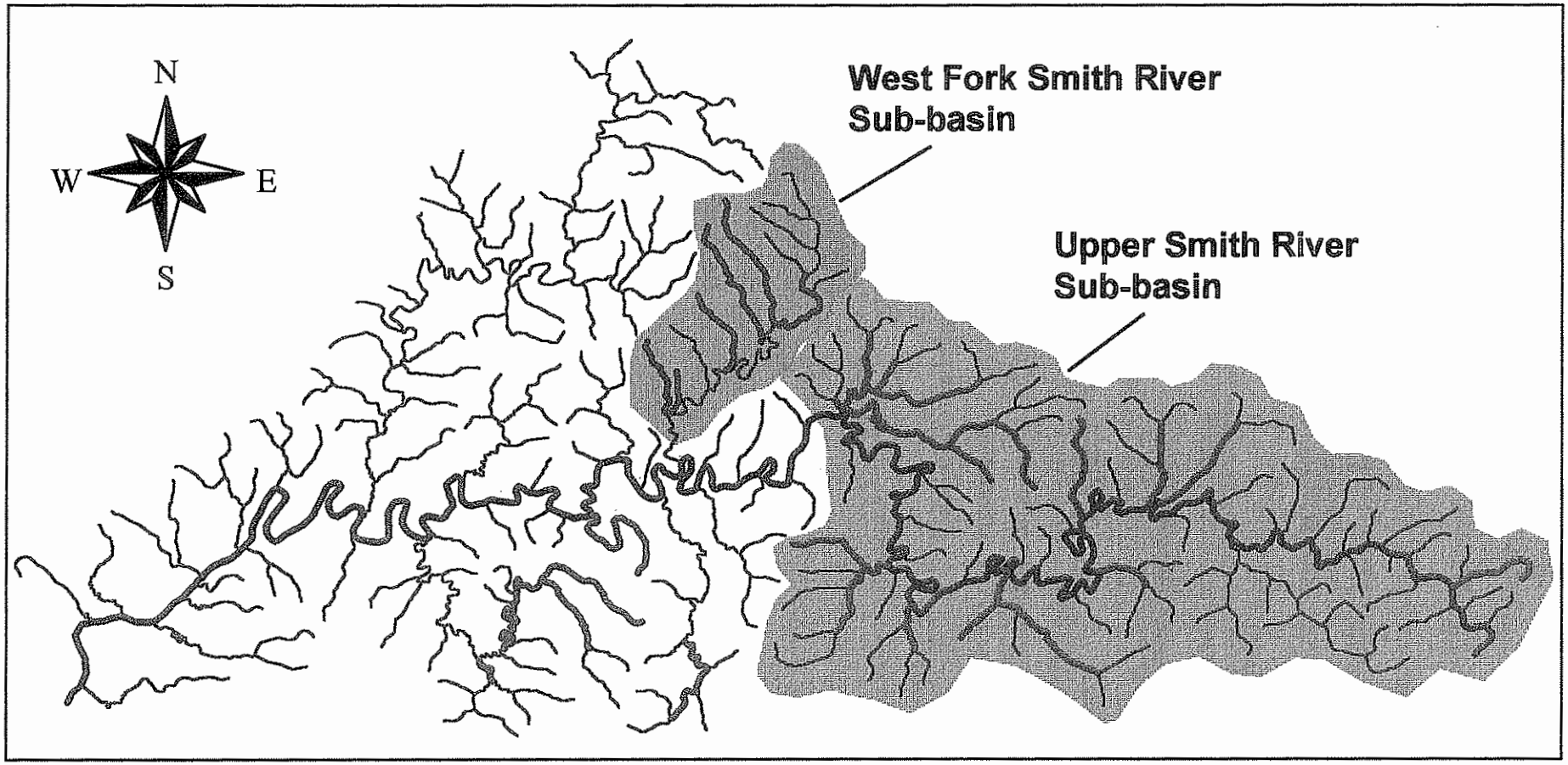
Land ownership within the Smith River basin is predominantly private with timber as the principle land use. Mining and agricultural uses are also present. Federal agencies own approximately one third of the drainage and manage predominantly for timber.

Driftboat and bank fisheries exist for hatchery winter steelhead, hatchery fall chinook, striped bass and American shad. Species present in the Smith River and its tributaries include; coho, fall chinook, winter steelhead (proposed federal threatened species), searun and resident cutthroat trout (federal endangered species), rainbow trout, American shad, striped bass, coastrange sculpin, prickly sculpin, riffle sculpin, reticulate sculpin, smelt, red-sided shiner, blackside dace, western brook lamprey, largescale sucker, Umpqua squawfish, three-spine stickleback, crayfish.

Restoration Considerations

- Projects previously completed or in progress. A complete inventory of restoration projects was not done for this report. There are, however, several projects to note. The lower Wasson Creek project involved boulder placement in scour pools. The Scare Creek project used explosives to make steps in an impassable falls, thereby making the falls passable.
- Currently identified opportunities. We have identified 64 potential restoration reaches in the Smith River sub-basin. These are concentrated in the West Fork Smith River drainage and the Upper Smith River. Both of these are high priority areas for coho as well as steelhead and cutthroat.
- Potential future opportunities. Further opportunities for restoration may exist in the Upper Smith River. The North Fork Smith River also shows promise for identifying future restoration opportunities.

Smith River
Restoration Reaches



Priority Watershed
Coho Only

Potential Restoration
Reaches*

Priority Watershed
Coho, Winter Steelhead
and Cutthroat

*General representation of reach location. Do not use for locating beginning and ending points of reaches.

STREAM: BEAVER CREEK — REACH: 1

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.6
ACTIVE CHANNEL WIDTH (METERS):	8.6	REACH LENGTH (m):	1,996.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	427	CHANNEL WIDTHS/POOL:	3.6
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	0.85
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	73
PIECES OF WOOD (0.15 x 3m)/100m:	10.8	KEY PIECES LWD/100m:	1

STREAM: BEAVER CREEK — REACH: 2

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.5
ACTIVE CHANNEL WIDTH (METERS):	6.7	REACH LENGTH (m):	1,429.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	15
CONIFERS (w/in 30 meters)/100m:	46	CHANNEL WIDTHS/POOL:	4
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	0.63
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	94
PIECES OF WOOD (0.15 x 3m)/100m:	11.3	KEY PIECES LWD/100m:	2.7

STREAM: BEAVER CREEK — REACH: 3

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.8
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	1,880.00

SITE TRAITS

LAND USE:	Partial Cut	OPEN SKY (%):	19
CONIFERS (w/in 30 meters)/100m:	183	CHANNEL WIDTHS/POOL:	9.6
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	6.38
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	91
PIECES OF WOOD (0.15 x 3m)/100m:	20.3	KEY PIECES LWD/100m:	2.7

STREAM: BIG CREEK — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5.7
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	9.8	REACH LENGTH (m):	1,291.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	6.2
SILT AND ORGANICS IN RIFFLES (%):	24	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/100m:	2.1	KEY PIECES LWD/100m:	n/a

STREAM: BIG CREEK — REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	6
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	0.4
ACTIVE CHANNEL WIDTH (METERS):	12	REACH LENGTH (m):	202.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	2.8
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	44	GRAVEL IN RIFFLES (%):	48
PIECES OF WOOD (0.15 x 3m)/100m:	4	KEY PIECES LWD/100m:	n/a

STREAM: BIG CREEK — REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	6.2
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	8.7	REACH LENGTH (m):	3,806.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	7
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	2.97
SILT AND ORGANICS IN RIFFLES (%):	23	GRAVEL IN RIFFLES (%):	28
PIECES OF WOOD (0.15 x 3m)/100m:	1.2	KEY PIECES LWD/100m:	N/A

STREAM: BIG CREEK — REACH: 4

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	6.2	REACH LENGTH (m):	2,595.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	9.9
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	4.2
SILT AND ORGANICS IN RIFFLES (%):	33	GRAVEL IN RIFFLES (%):	37
PIECES OF WOOD (0.15 x 3m)/100m:	7.9	KEY PIECES LWD/100m:	n/a

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STREAM: BIG CREEK — REACH: 5

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.7
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	4.2
ACTIVE CHANNEL WIDTH (METERS):	5.8	REACH LENGTH (m):	1,098.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	5.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	11.38
SILT AND ORGANICS IN RIFFLES (%):	56	GRAVEL IN RIFFLES (%):	34
PIECES OF WOOD (0.15 x 3m)/100m:	28.7	KEY PIECES LWD/100m:	n/a

STREAM: BIG CREEK TRIB A — REACH: 1

TRIBUTARY OF: Big Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	6.1	REACH LENGTH (m):	1,636.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	10
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	10.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	4.16
SILT AND ORGANICS IN RIFFLES (%):	32	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/100m:	7.9	KEY PIECES LWD/100m:	n/a

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STREAM: BUCK CREEK (SMITH) — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	9.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	6.3	REACH LENGTH (m):	5,001.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	29
CONIFERS (w/in 30 meters)/100m:	9	CHANNEL WIDTHS/POOL:	4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	1.42
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	69
PIECES OF WOOD (0.15 x 3m)/100m:	5.8	KEY PIECES LWD/100m:	0.9

STREAM: BUCK CREEK (SMITH) REACH: 2

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	4.7	REACH LENGTH (m):	1,057.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	41	CHANNEL WIDTHS/POOL:	5.4
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	8.61
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	66
PIECES OF WOOD (0.15 x 3m)/ 100m:	12.4	KEY PIECES LWD/100m:	2.6

STREAM: BUM CREEK REACH: 1

TRIBUTARY OF: South Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	11.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	1,044.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	366	CHANNEL WIDTHS/POOL:	9.1
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.79
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	18
PIECES OF WOOD (0.15 x 3m)/100m:	9	KEY PIECES LWD/100m:	0.7

STREAM: BUM CREEK — REACH: 2

TRIBUTARY OF: South Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5.4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.3
ACTIVE CHANNEL WIDTH (METERS):	4.7	REACH LENGTH (m):	1,129.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	1118	CHANNEL WIDTHS/POOL:	5.4
RIPARIAN VEG:	Conifer (15-30CM DBH)	LARGE BOULDERS/100m:	3.45
SILT AND ORGANICS IN RIFFLES (%):	17	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/100m:	9.6	KEY PIECES LWD/100m:	0.3

STREAM: CLEGHORN CREEK — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	9.3	REACH LENGTH (m):	1,677.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	427	CHANNEL WIDTHS/POOL:	4.2
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	9.18
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/100m:	8.4	KEY PIECES LWD/100m:	0.8

STREAM: CLEGHORN CREEK REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5
CHANNEL FORM:	Alt. Hilllslope/Terrace	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	8	REACH LENGTH (m):	853.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	3.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	1.88
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	25
PIECES OF WOOD (0.15 x3m)/ 00 m.:	7.5	KEY PIECES LWD/100m:	0.2

STREAM: CLEGHORN CREEK REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.3
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	4.9	REACH LENGTH (m):	1,024.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	9
CONIFERS (w/in 30 meters)/100m:	61	CHANNEL WIDTHS/POOL:	4.6
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS/100m:	4.39
SILT AND ORGANICS IN RIFFLES (%):	14	GRAVEL IN RIFFLES (%):	69
PIECES OF WOOD (0.15 x3m)/100m:	16.1	KEY PIECES LWD/100m:	1.9

STREAM: COON CREEK — REACH: 1

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	2.5
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	1,481.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	24	CHANNEL WIDTHS/POOL:	4.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	9.05
SILT AND ORGANICS IN RIFFLES (%):	5	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/100m:	20.3	KEY PIECES LWD/100m:	2.8

STREAM: COON CREEK — REACH: 2

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.4
ACTIVE CHANNEL WIDTH (METERS):	3.6	REACH LENGTH (m):	1,208.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	28
CONIFERS (w/in 30 meters)/100m:	91	CHANNEL WIDTHS/POOL:	6.7
RIPARIAN VEG:	Shrub	LARGE BOULDERS/100m:	5.88
SILT AND ORGANICS IN RIFFLES (%):	81	GRAVEL IN RIFFLES (%):	19
PIECES OF WOOD (0.15 x 3m)/100m:	31.2	KEY PIECES LWD/100m:	1.6

STREAM: CRANE CREEK — REACH: 1

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.5
ACTIVE CHANNEL WIDTH (METERS):	5.7	REACH LENGTH (m):	623.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	6.8
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	20.39
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	83
PIECES OF WOOD (0.15 x 3m)/100m:	14.4	KEY PIECES LWD/100m:	0.6

STREAM: CRANE CREEK — REACH: 2

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	1,189.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	85	CHANNEL WIDTHS/POOL:	5.1
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.54
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	67
PIECES OF WOOD (0.15 x 3m)/100m:	13	KEY PIECES LWD/100m:	0.3

STREAM: GOLD CREEK — REACH: 1

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.6
CHANNEL FORM:	Unconstrained Single	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	7.1	REACH LENGTH (m):	2,390.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	4
CONIFERS (w/in 30 meters)/100m:	366	CHANNEL WIDTHS/POOL:	6.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	3.81
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	52
PIECES OF WOOD (0.15 x 3m)/100m:	16.7	KEY PIECES LWD/100m:	0.2

STREAM: GOLD CREEK — REACH: 2

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.2
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	4.8
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	2,466.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	23
CONIFERS (w/in 30 meters)/100m:	146	CHANNEL WIDTHS/POOL:	10.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.02
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	57
PIECES OF WOOD (0.15 x 3m)/100m:	15.4	KEY PIECES LWD/100m:	1

STREAM: HALFWAY CREEK — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	9.6	REACH LENGTH (m):	562.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	6.5
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	6.23
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	25
PIECES OF WOOD (0.15 x 3m)/100m:	4.1	KEY PIECES LWD/100m:	0.2

STREAM: HALFWAY CREEK — REACH: 2

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.3
ACTIVE CHANNEL WIDTH (METERS):	7.6	REACH LENGTH (m):	5,181.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	406	CHANNEL WIDTHS/POOL:	6.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	7.78
SILT AND ORGANICS IN RIFFLES (%):	17	GRAVEL IN RIFFLES (%):	29
PIECES OF WOOD (0.15 x 3m)/100m:	9.2	KEY PIECES LWD/100m:	0.9

STREAM: HALFWAY CREEK — REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	5.6	REACH LENGTH (m):	2,399.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	378	CHANNEL WIDTHS/POOL:	5.8
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	11.84
SILT AND ORGANICS IN RIFFLES (%):	17	GRAVEL IN RIFFLES (%):	45
PIECES OF WOOD (0.15 x 3m)/100m/:	12.1	KEY PIECES LWD/100m:	2.4

STREAM: HALFWAY CREEK — REACH: 5

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	2,088.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	488	CHANNEL WIDTHS/POOL:	8.2
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	4.26
SILT AND ORGANICS IN RIFFLES (%):	20	GRAVEL IN RIFFLES (%):	54
PIECES OF WOOD (0.15 x 3m)/100m:	14.6	KEY PIECES LWD/100m:	4.3

STREAM: HANEY CREEK

REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Wide Floodplain

VALLEY WIDTH INDEX: 70

CHANNEL FORM: Unconstrained Single

GRADIENT (%): 0.5

ACTIVE CHANNEL WIDTH (METERS): 7.8

REACH LENGTH (m): 1,322.00

SITE TRAITS

LAND USE: Light Grazing

OPEN SKY (%): 41

CONIFERS (w/in 30 meters)/100m: n/a

CHANNEL WIDTHS/POOL: 4.8

RIPARIAN VEG: Deciduous (50-90CM DBH)

LARGE BOULDERS/100m: 0

SILT AND ORGANICS IN RIFFLES (%): 23

GRAVEL IN RIFFLES (%): 75

PIECES OF WOOD (0.15 x 3m)/100m/: 6

KEY PIECES LWD/100m: N/A

STREAM: HANEY CREEK

REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Wide Floodplain

VALLEY WIDTH INDEX: 7.3

CHANNEL FORM: Unconstrained Single

GRADIENT (%): 0.5

ACTIVE CHANNEL WIDTH (METERS): 9.7

REACH LENGTH (m): 2,090.00

SITE TRAITS

LAND USE: Light Grazing

OPEN SKY (%): 37

CONIFERS (w/in 30 meters)/100m: n/a

CHANNEL WIDTHS/POOL: 3.3

RIPARIAN VEG: Deciduous (50-90CM DBH)

LARGE BOULDERS/100m: 0.62

SILT AND ORGANICS IN RIFFLES (%): 11

GRAVEL IN RIFFLES (%): 78

PIECES OF WOOD (0.15 x 3m)/100m/: 5

KEY PIECES LWD/100m: N/A

STREAM: HANEY CREEK — REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Open Valley	VALLEY WIDTH INDEX:	2.5
CHANNEL FORM:	Constraining hillslopes	GRADIENT (%):	0.6
ACTIVE CHANNEL WIDTH (METERS):	6.3	REACH LENGTH (m):	1,449.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	32
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	3.5
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS/100m:	6.9
SILT AND ORGANICS IN RIFFLES (%):	26	GRAVEL IN RIFFLES (%):	46
PIECES OF WOOD (0.15 x 3m)/100m/:	7	KEY PIECES LWD/100m:	N/A

STREAM: HERB CREEK — REACH: 1

TRIBUTARY OF: North Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	3.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	7.5	REACH LENGTH (m):	902.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	640	CHANNEL WIDTHS/POOL:	6.7
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	10.64
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	6
PIECES OF WOOD (0.15 x 3m)/100m/:	5.1	KEY PIECES LWD/100m:	0.3

STREAM: HERB CREEK

REACH: 2

TRIBUTARY OF: North Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.2
CHANNEL FORM:	Constraining hillslopes	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	1,450.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	3
CONIFERS (w/in 30 meters)/100m:	853	CHANNEL WIDTHS/POOL:	6.6
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	10.07
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	29
PIECES OF WOOD (0.15 x 3m)/100m/:	7.1	KEY PIECES LWD/100m:	0.2

STREAM: JEFF CREEK

REACH: 1

TRIBUTARY OF: South Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	2,075.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	488	CHANNEL WIDTHS/POOL:	11.8
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	23.47
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	13
PIECES OF WOOD (0.15 x 3m)/100m:	4.8	KEY PIECES LWD/100m:	0.2

STREAM: MOORE CREEK — REACH: 1

TRIBUTARY OF: W. Fk. of Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	10.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	451.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	183	CHANNEL WIDTHS/POOL:	7.5
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	2.22
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	48
PIECES OF WOOD (0.15 x 3m)/100m:	4.4	KEY PIECES LWD/100m:	0

STREAM: MOSETOWN CREEK — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	6.1
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	2,855.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	320	CHANNEL WIDTHS/POOL:	6.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	7.29
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	56
PIECES OF WOOD (0.15 x 3m)/100m:	11.7	KEY PIECES LWD/100m:	1.1

STREAM: MOSETOWN CREEK E.FK. REACH: 1

TRIBUTARY OF: Mosetown Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	7.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	952.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	366	CHANNEL WIDTHS/POOL:	7.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	10.71
SILT AND ORGANICS IN RIFFLES (%):	10	GRAVEL IN RIFFLES (%):	43
PIECES OF WOOD (0.15 x 3m)/100m/:	11	KEY PIECES LWD/100m:	0.6

STREAM: NORTH SISTER CREEK REACH: 1

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	7.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	11.7	REACH LENGTH (m):	1,564.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	9
CONIFERS (w/in 30 meters)/100m:	427	CHANNEL WIDTHS/POOL:	5.9
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	30.37
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	13
PIECES OF WOOD (0.15 x 3m)/100m:	5.5	KEY PIECES LWD/100m:	0.3

STREAM: NORTH SISTER CREEK REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	12.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	10.1	REACH LENGTH (m):	1,017.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	10.3
RIPARIAN VEG:	Conifer (30-50CM DBH)	LARGE BOULDERS/100m:	14.55
SILT AND ORGANICS IN RIFFLES (%):	5	GRAVEL IN RIFFLES (%):	10
PIECES OF WOOD (0.15 x 3m)/100m:	7.9	KEY PIECES LWD/100m:	0.5

STREAM: NORTH SISTER CREEK REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	6.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.8
ACTIVE CHANNEL WIDTH (METERS):	7.7	REACH LENGTH (m):	6,038.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	406	CHANNEL WIDTHS/POOL:	5.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	14.57
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	20
PIECES OF WOOD (0.15 x 3m)/100m/:	5.3	KEY PIECES LWD/100m:	0.6

STREAM: NORTH SISTER CREEK — REACH: 4

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	1,285.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	4
CONIFERS (w/in 30 meters)/100m:	213	CHANNEL WIDTHS/POOL:	9.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	19.53
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	35
PIECES OF WOOD (0.15 x 3m)/100m:	13.7	KEY PIECES LWD/100m:	3.7

STREAM: PANTHER CREEK — REACH: 1

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	9.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	6.5	REACH LENGTH (m):	6,216.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	10
CONIFERS (w/in 30 meters)/100m:	372	CHANNEL WIDTHS/POOL:	5.1
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	1.61
SILT AND ORGANICS IN RIFFLES (%):	9	GRAVEL IN RIFFLES (%):	49
PIECES OF WOOD (0.15 x 3m)/100m/:	8.8	KEY PIECES LWD/100m:	0.3

STREAM: PANTHER CREEK — REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	11
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	577.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	183	CHANNEL WIDTHS/POOL:	11.9
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	0
SILT AND ORGANICS IN RIFFLES (%):	69	GRAVEL IN RIFFLES (%):	15
PIECES OF WOOD (0.15 x 3m)/100m:	8.7	KEY PIECES LWD/100m:	0

STREAM: RUSSELL CREEK — REACH: 1

TRIBUTARY OF: North Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	14.8
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	9.1	REACH LENGTH (m):	429.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	335	CHANNEL WIDTHS/POOL:	2.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	12.12
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m/:	12.8	KEY PIECES LWD/100m:	2.3

STREAM: SOUTH SISTER CREEK REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	18.3
CHANNEL FORM:	Unconstrained Single	GRADIENT (%):	0.6
ACTIVE CHANNEL WIDTH (METERS):	9.9	REACH LENGTH (m):	929.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	42
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	5.5
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	1.72
SILT AND ORGANICS IN RIFFLES (%):	22	GRAVEL IN RIFFLES (%):	49
PIECES OF WOOD (0.15 x 3m)/100m:	11.8	KEY PIECES LWD/100m:	0.9

STREAM: SOUTH SISTER CREEK REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	18
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	11.3	REACH LENGTH (m):	1,986.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	22
CONIFERS (w/in 30 meters)/100m:	569	CHANNEL WIDTHS/POOL:	8.2
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	6.9
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	22
PIECES OF WOOD (0.15 x 3m)/100m:	5.5	KEY PIECES LWD/100m:	0.3

STREAM: SOUTH SISTER CREEK REACH: 4

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	9.2	REACH LENGTH (m):	6,519.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	657	CHANNEL WIDTHS/POOL:	7.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	19.99
SILT AND ORGANICS IN RIFFLES (%):	9	GRAVEL IN RIFFLES (%):	17
PIECES OF WOOD (0.15 x 3m)/ 100m:	3.1	KEY PIECES LWD/100m:	0.1

STREAM: SOUTH SISTER CREEK REACH: 5

TRIBUTARY OF: Smith River

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	6.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	4.9	REACH LENGTH (m):	3,529.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	671	CHANNEL WIDTHS/POOL:	10.1
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	9.04
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/ 100m:	7.5	KEY PIECES LWD/100m:	0.3

STREAM: SWEDEN CREEK — REACH: 1

TRIBUTARY OF: North Sister Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.2
ACTIVE CHANNEL WIDTH (METERS):	5.7	REACH LENGTH (m):	1,656.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	3
CONIFERS (w/in 30 meters)/100m:	1036	CHANNEL WIDTHS/POOL:	8.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	5.56
SILT AND ORGANICS IN RIFFLES (%):	9	GRAVEL IN RIFFLES (%):	18
PIECES OF WOOD (0.15 x 3m)/ 100m:	6.6	KEY PIECES LWD/100m:	0.4

STREAM: SWEDEN CREEK — REACH: 2

TRIBUTARY OF: North Sister Creek

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.9
ACTIVE CHANNEL WIDTH (METERS):	5.3	REACH LENGTH (m):	1,715.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	1158	CHANNEL WIDTHS/POOL:	10.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	1.28
SILT AND ORGANICS IN RIFFLES (%):	55	GRAVEL IN RIFFLES (%):	37
PIECES OF WOOD (0.15 x 3m)/100m:	12.1	KEY PIECES LWD/100m:	1.5

STREAM: TIP DAVIS CREEK REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	11.2
CHANNEL FORM:	Constraining Terraces	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	3.8	REACH LENGTH (m):	1,037.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	35
CONIFERS (w/in 30 meters)/100m:	427	CHANNEL WIDTHS/POOL:	16.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0.1
SILT AND ORGANICS IN RIFFLES (%):	54	GRAVEL IN RIFFLES (%):	32
PIECES OF WOOD (0.15 x 3m)/100m:	7.9	KEY PIECES LWD/100m:	0.4

STREAM: TIP DAVIS CREEK REACH: 2

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	3.5	REACH LENGTH (m):	2,100.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	43
CONIFERS (w/in 30 meters)/100m:	792	CHANNEL WIDTHS/POOL:	19.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	0.1
SILT AND ORGANICS IN RIFFLES (%):	40	GRAVEL IN RIFFLES (%):	29
PIECES OF WOOD (0.15 x 3m)/100m:	10	KEY PIECES LWD/100m:	1.3

STREAM: VINCENT CREEK — REACH: 4

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	5.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.3
ACTIVE CHANNEL WIDTH (METERS):	7.8	REACH LENGTH (m):	1,730.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	27
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	8
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	1.62
SILT AND ORGANICS IN RIFFLES (%):	32	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/100 m.:	2.9	KEY PIECES LWD/100m:	0.2

STREAM: VINCENT CREEK — REACH: 5

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	4.2
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	9.4	REACH LENGTH (m):	3,192.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	366	CHANNEL WIDTHS/POOL:	6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	13.91
SILT AND ORGANICS IN RIFFLES (%):	9	GRAVEL IN RIFFLES (%):	28
PIECES OF WOOD (0.15 x 3m)/100m:	7	KEY PIECES LWD/100m:	0.9

STREAM: VINCENT CREEK — REACH: 6

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.5
ACTIVE CHANNEL WIDTH (METERS):	4.2	REACH LENGTH (m):	4,167.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	322	CHANNEL WIDTHS/POOL:	9.9
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	9.05
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	79
PIECES OF WOOD (0.15 x 3m)/100m:	10.4	KEY PIECES LWD/100m:	2.1

STREAM: WASSON CREEK — REACH: 4

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	11.4	REACH LENGTH (m):	3,310.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	32
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	7.9
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS/100m:	19.12
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	7
PIECES OF WOOD (0.15 x 3m)/100m:	9.5	KEY PIECES LWD/100m:	n/a

STREAM: WASSON CREEK

REACH: 6

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.5
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	0.8
ACTIVE CHANNEL WIDTH (METERS):	9	REACH LENGTH (m):	847.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	5
RIPARIAN VEG:	Mixed (90+CM DBH)	LARGE BOULDERS/100m:	2.36
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	4
PIECES OF WOOD (0.15 x 3m)/100m:	28.8	KEY PIECES LWD/100m:	n/a

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STREAM: WASSON CREEK

REACH: 7

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	5.3	REACH LENGTH (m):	1,492.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	33
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	7.7
RIPARIAN VEG:	Conifer (50-90CM DBH)	LARGE BOULDERS/100m:	5.5
SILT AND ORGANICS IN RIFFLES (%):	17	GRAVEL IN RIFFLES (%):	40
PIECES OF WOOD (0.15 x 3m)/100m:	17.4	KEY PIECES LWD/100m:	n/a

STREAM: WASSON CREEK REACH: 8

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	3.2
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	4.6	REACH LENGTH (m):	3,254.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	29
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	11.6
RIPARIAN VEG:	Conifer (90+CM DBH)	LARGE BOULDERS/100m:	12.17
SILT AND ORGANICS IN RIFFLES (%):	43	GRAVEL IN RIFFLES (%):	25
PIECES OF WOOD (0.15 x 3m)/100m:	33	KEY PIECES LWD/100m:	n/a

STREAM: WASSON CREEK TRIB #1 REACH: 2

TRIBUTARY OF: Wasson Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.1
CHANNEL FORM:	Constraining Hillslopes	GRADIENT (%):	3.3
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	2,879.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	25
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	14.2
RIPARIAN VEG:	Mixed (90+CM DBH)	LARGE BOULDERS/100m:	19.69
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	35
PIECES OF WOOD (0.15 x 3m)/100m:	13.9	KEY PIECES LWD/100m:	N/A

STREAM: WASSON CREEK TRIB #2 REACH: 1

TRIBUTARY OF: Wasson Creek
ECOREGION: Coast Range Sedimentary
LOCATION. T 21S-R10W 12SE

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces
VALLEY WIDTH INDEX: 3.8
CHANNEL FORM: Unconstrained Single
GRADIENT (%): 1.2
ACTIVE CHANNEL WIDTH (METERS): 7.5
REACH LENGTH (m): 2,534.00

SITE TRAITS

LAND USE: Mature Timber
OPEN SKY (%): 35
CONIFERS (w/in 30 meters)/100m: n/a
CHANNEL WIDTHS/POOL: 8.8
RIPARIAN VEG: Mixed (30-50CM DBH)
LARGE BOULDERS/100m: 8.8
SILT AND ORGANICS IN RIFFLES (%): 12
GRAVEL IN RIFFLES (%): 44
PIECES OF WOOD (0.15 x 3m)/100m: 18
KEY PIECES LWD/100m: N/A

STREAM: WASSON CREEK TRIB #2 REACH: 2

TRIBUTARY OF: Wasson Creek
ECOREGION: Coast Range Sedimentary
LOCATION: T 21S-R9W 18C

BASE CHARACTERISTICS

VALLEY FORM: Moderate Valley
VALLEY WIDTH INDEX: 2
CHANNEL FORM: Constraining Hillslopes
GRADIENT (%): 1
ACTIVE CHANNEL WIDTH (METERS): 7.1
REACH LENGTH (m): 678.00

SITE TRAITS

LAND USE: Mature Timber
OPEN SKY (%): 32
CONIFERS (w/in 30 meters)/100m: n/a
CHANNEL WIDTHS/POOL: 6
RIPARIAN VEG: Mixed (30-50CM DBH)
LARGE BOULDERS/100m: 8.85
SILT AND ORGANICS IN RIFFLES (%): 14
GRAVEL IN RIFFLES (%): 46
PIECES OF WOOD (0.15 x 3m)/100m: 26.8
KEY PIECES LWD/100m: n/a

STREAM: WASSON CREEK TRIB #2 REACH: 3

TRIBUTARY OF: Wasson Creek LOCATION: T 21S-R9W 18SE
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces VALLEY WIDTH INDEX: 5.1

CHANNEL FORM: Unconstrained Single GRADIENT (%): 2

ACTIVE CHANNEL WIDTH (METERS): 5.5 REACH LENGTH (m): 1,702.00

SITE TRAITS

LAND USE: Mature Timber OPEN SKY (%): 31

CONIFERS (w/in 30 meters)/100m: n/a CHANNEL WIDTHS/POOL: 13.1

RIPARIAN VEG: Mixed (30-50CM DBH) LARGE BOULDERS/100m: 17.57

SILT AND ORGANICS IN RIFFLES (%): 14 GRAVEL IN RIFFLES (%): 26

PIECES OF WOOD (0.15 x 3m)/100m: 31.5 KEY PIECES LWD/100m: n/a

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STREAM: W. FK. OF HALFWAY CREEK REACH: 1

TRIBUTARY OF: Halfway Creek
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces VALLEY WIDTH INDEX: 4.8

CHANNEL FORM: Alt. Hillslope/Terrace GRADIENT (%): 4.8

ACTIVE CHANNEL WIDTH (METERS): 5.1 REACH LENGTH (m): 1,405.00

SITE TRAITS

LAND USE: Second Growth OPEN SKY (%): 3

CONIFERS (w/in 30 meters)/100m: 732 CHANNEL WIDTHS/POOL: 9.2

RIPARIAN VEG: Deciduous (15-30CM DBH) LARGE BOULDERS/100m: 7.33

SILT AND ORGANICS IN RIFFLES (%): 15 GRAVEL IN RIFFLES (%): 32

PIECES OF WOOD (0.15 x 3m)/100m: 7 KEY PIECES LWD/100m: 0.1

STREAM: W. FK. OF SMITH RIVER — REACH: 6

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	10.3	REACH LENGTH (m):	1,145.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	19
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	4.2
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	3.41
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	74
PIECES OF WOOD (0.15 x 3m)/100m:	20.3	KEY PIECES LWD/100m:	0.3

STREAM: W. FK. OF SMITH RIVER — REACH: 7

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	7.9	REACH LENGTH (m):	2,340.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	23
CONIFERS (w/in 30 meters)/100m:	284	CHANNEL WIDTHS/POOL:	6.8
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS/100m:	9.15
SILT AND ORGANICS IN RIFFLES (%):	1	GRAVEL IN RIFFLES (%):	59
PIECES OF WOOD (0.15 x 3m)/100m:	8.1	KEY PIECES LWD/100m:	0.9

STREAM: YELLOW CREEK — REACH: 1

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.2
ACTIVE CHANNEL WIDTH (METERS):	5.9	REACH LENGTH (m):	1,025.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	107	CHANNEL WIDTHS/POOL:	5.6
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS/100m:	31.22
SILT AND ORGANICS IN RIFFLES (%):	28	GRAVEL IN RIFFLES (%):	39
PIECES OF WOOD (0.15 x 3m)/100m:	10.2	KEY PIECES LWD/100m:	1.4

STREAM: YELLOW CREEK — REACH: 3

TRIBUTARY OF: Smith River
ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	2.7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	2,492.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	829	CHANNEL WIDTHS/POOL:	10.5
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS/100m:	4.9
SILT AND ORGANICS IN RIFFLES (%):	44	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	10.9	KEY PIECES LWD/100m:	0.5

North Umpqua River Sub-Basin

The North Umpqua River drains an area of approximately 1860 square miles on the southwestern side of the Cascade Mountain Range. It originates at Maidu Lake and flows 106 miles west to its confluence with the South Umpqua River near the community of Melrose. Soda Springs, (RM 70),is the upper limit of anadromous fish passage. Major tributaries of the North Umpqua include Little River, Rock Creek, Canton Creek, Copeland Creek, and Steamboat Creek. The upper North Umpqua drainage is characterized by narrow canyons, steep gradients and bedrock substrate.

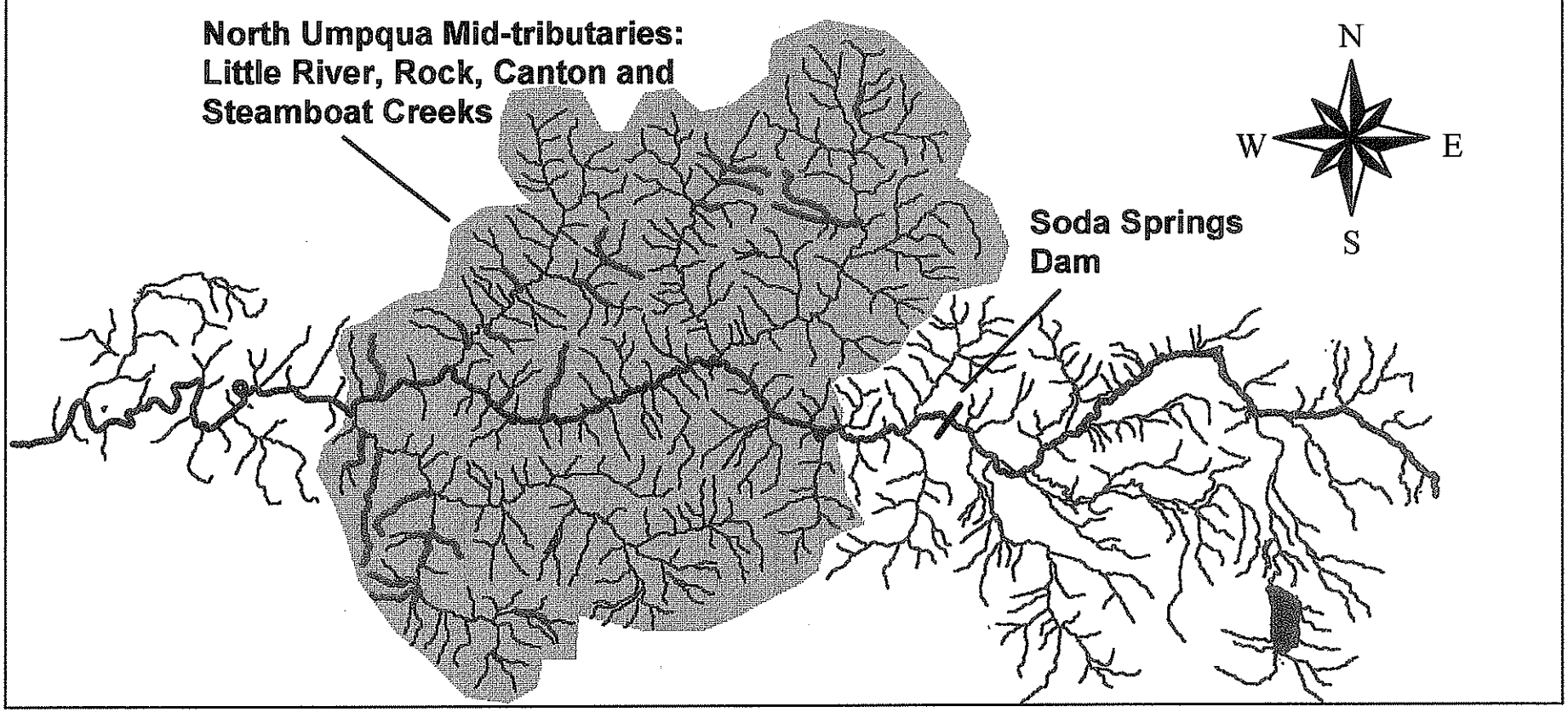
The majority of land in this sub-basin is publicly owned by the BLM and US Forest Service. Approximately 35 miles of the N. Umpqua River has been declared a wild and scenic area by the federal government. Fly fish and drift boat angling for hatchery summer steelhead, hatchery coho, hatchery rainbow trout, and wild brown trout is popular on the North Umpqua. Anadromous salmonids spawned at Soda Springs and reared at Rock Creek Hatchery enhance the fishery in this basin. While the wild populations are a portion of the yearly run of these species, anglers are encouraged to keep hatchery fish rather than their wild counterparts. The lower reaches of the North Umpqua are characterized by predominantly agricultural and residential use. In some cases riparian areas have been cleared to the stream thereby resulting in a lack of cover and increased siltation. These factors have had a noticeable effect on water quality in the river.

Fish species present in the North Umpqua and its tributaries include; resident cutthroat trout (federal endangered), Umpqua searun cutthroat trout (state vulnerable & federal endangered species), summer and winter steelhead (proposed federal threatened species), fall and spring chinook, coho, rainbow trout, brown and brook trout. Non-game fish species include; sculpins , dace, northern squawfish, redside shiner, largescale sucker, three-spine stickleback, Pacific lamprey (state vulnerable species) and Tui chub.

Restoration Considerations

- Projects previously completed or in progress. Known project areas include Cavitt Creek and East Fork Rock Creek. Both of these projects include instream work with logs and boulders, alcove construction was a component on East Fork Rock Creek. Additional projects are located within the Umpqua National Forest.
- Currently identified opportunities. We have identified 32 potential restoration reaches in the North Umpqua sub-basin. Many of these reaches are not used by coho and some are used only by resident cutthroat.
- Potential future opportunities. Numerous reaches could still be identified in the North Umpqua. Future opportunities include agricultural areas below Glide, and tributaries below Soda Springs Dam i.e. Calf, Copeland, and Boulder Creeks.

North Umpqua River Restoration Reaches



Priority Watershed
Summer & Winter Steelhead
and Cutthroat

Potential Restoration
Reaches*

*General representation of reach location. Do not use for locating beginning and ending points of reaches.

STREAM: BOULDER CREEK — REACH: 1

TRIBUTARY OF: Cavitt Creek
ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	15
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.4
ACTIVE CHANNEL WIDTH (METERS):	3.8	REACH LENGTH (m):	256.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	20
CONIFERS (w/in 30 meters)/100m:	427	CHANNEL WIDTHS/POOL:	6.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	264.06
SILT AND ORGANICS IN RIFFLES (%):	42	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/100m:	7.8	KEY PIECES LWD/100m:	0

STREAM: BOULDER CREEK — REACH: 2

TRIBUTARY OF: Cavitt Creek
ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	5.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4
ACTIVE CHANNEL WIDTH (METERS):	4.8	REACH LENGTH (m):	454.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	579	CHANNEL WIDTHS/POOL:	4.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS/100m:	22.25
SILT AND ORGANICS IN RIFFLES (%):	54	GRAVEL IN RIFFLES (%):	22
PIECES OF WOOD (0.15 x 3m)/100m:	15.2	KEY PIECES LWD/100m:	0.7

STREAM: BUCKHORN CREEK — REACH: 1

TRIBUTARY OF: Little River
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	15.1
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	4.9	REACH LENGTH (m):	1,783.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	21
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	17.3
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS/100m:	0.62
SILT AND ORGANICS IN RIFFLES (%):	40	GRAVEL IN RIFFLES (%):	54
PIECES OF WOOD (0.15 x 3m)/100m:	1.6	KEY PIECES LWD/100m:	0

STREAM: BUCKHORN CREEK — REACH: 2

TRIBUTARY OF: Little River
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	12.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	1,647.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	17
CONIFERS (w/in 30 meters)/100m:	640	CHANNEL WIDTHS/POOL:	27.4
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	7.53
SILT AND ORGANICS IN RIFFLES (%):	34	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	3	KEY PIECES LWD/ 100m:	0.1

STREAM: BUCKHORN CREEK — REACH: 3

TRIBUTARY OF: Little River
ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	7.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	3.9	REACH LENGTH (m):	3,403.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	29
CONIFERS (w/in 30 meters)/100m:	503	CHANNEL WIDTHS/POOL:	43.6
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	0.03
SILT AND ORGANICS IN RIFFLES (%):	37	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/100 m.:	1.3	KEY PIECES LWD/ 100m:	0

STREAM: CAVITT CREEK — REACH: 3

TRIBUTARY OF: Little River
ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	4.1
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.1
ACTIVE CHANNEL WIDTH (METERS):	11.8	REACH LENGTH (m):	2,064.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	33
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	6
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS / 100m:	34.45
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	12
PIECES OF WOOD (0.15 x 3m)/100m:	0.2	KEY PIECES LWD/ 100m:	N/A

STREAM: CAVITT CREEK — REACH: 10

TRIBUTARY OF: Little River
ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	174.00

SITE TRAITS

LAND USE:	Old Growth	OPEN SKY (%):	12
CONIFERS (w/in 30 meters)/100m:	n/a	CHANNEL WIDTHS/POOL:	5.8
RIPARIAN VEG:	Conifers (50-90CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	46
PIECES OF WOOD (0.15 x 3m)/100m:	7.5	KEY PIECES LWD/ 100m:	N/A

STREAM: CEDAR CREEK (SOUTH FORK) — REACH: 1

TRIBUTARY OF: Steamboat Creek
ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	3.1
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	9.1	REACH LENGTH (m):	2,144.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	14
CONIFERS (w/in 30 meters)/100m:	1143	CHANNEL WIDTHS/POOL:	5.3
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS / 100m:	53.4
SILT AND ORGANICS IN RIFFLES (%):	31	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	6.6	KEY PIECES LWD/ 100m:	1.2

STREAM: CEDAR CREEK (SOUTH FORK) REACH: 2

TRIBUTARY OF: Steamboat Creek
ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	3.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	8.8	REACH LENGTH (m):	960.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	25
CONIFERS (w/in 30 meters)/100m:	833	CHANNEL WIDTHS/POOL:	3.4
RIPARIAN VEG:	Conifers (50-90CM DBH)	LARGE BOULDERS / 100m:	47.4
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/100m:	8.2	KEY PIECES LWD/ 100m:	0.4

STREAM: CEDAR CREEK (SOUTH FORK) REACH: 3

TRIBUTARY OF: Steamboat Creek
ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	3.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.6
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	1,610.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	1006	CHANNEL WIDTHS/POOL:	7.8
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS / 100m:	41.86
SILT AND ORGANICS IN RIFFLES (%):	31	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/100m:	11.7	KEY PIECES LWD/ 100m:	1.2

STREAM: CEDAR CREEK (SOUTH FORK) REACH: 4

TRIBUTARY OF: Steamboat Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	2.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.3
ACTIVE CHANNEL WIDTH (METERS):	5.2	REACH LENGTH (m):	1,146.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	874	CHANNEL WIDTHS/POOL:	7.5
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	39.62
SILT AND ORGANICS IN RIFFLES (%):	23	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	18.9	KEY PIECES LWD/ 100m:	5.2

STREAM: CHILCOOT CREEK REACH: 1

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	3.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	4.7
ACTIVE CHANNEL WIDTH (METERS):	7.9	REACH LENGTH (m):	592.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	8.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	139.02
SILT AND ORGANICS IN RIFFLES (%):	10	GRAVEL IN RIFFLES (%):	40
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	35.2	KEY PIECES LWD/ 100m:	N/A

STREAM: CHILCOOT CREEK — REACH: 3

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2.1
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	2.9
ACTIVE CHANNEL WIDTH (METERS):	5.8	REACH LENGTH (m):	2,821.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	20.7
RIPARIAN VEG:	CONIFERS (30-50CM DBH)	LARGE BOULDERS / 100m:	30.63
SILT AND ORGANICS IN RIFFLES (%):	14	GRAVEL IN RIFFLES (%):	31
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	40.6	KEY PIECES LWD/ 100m:	N/A

STREAM: CONLEY CREEK — REACH: 1

TRIBUTARY OF: Rock Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	2.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.6
ACTIVE CHANNEL WIDTH (METERS):	7.5	REACH LENGTH (m):	428.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	28
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	10.6
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	14.25
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	51
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	3.3	KEY PIECES LWD/ 100m:	N/A

STREAM: COPPERHEAD CREEK — REACH: 1

TRIBUTARY OF: Cavitt Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	12.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	5.7	REACH LENGTH (m):	2,608.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	31
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	3.8
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	0.73
SILT AND ORGANICS IN RIFFLES (%):	63	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	9.7	KEY PIECES LWD/ 100m:	N/A

STREAM: COPPERHEAD CREEK — REACH: 2

TRIBUTARY OF: Cavitt Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	8.6
CHANNEL FORM:	Unconstrained SINGLE	GRADIENT (%):	3.9
ACTIVE CHANNEL WIDTH (METERS):	5.2	REACH LENGTH (m):	1,610.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	10
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	0.25
SILT AND ORGANICS IN RIFFLES (%):	71	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	26.2	KEY PIECES LWD/ 100m:	N/A

STREAM: EAST FORK ROCK CREEK — REACH: 3

TRIBUTARY OF: Rock Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	5.8
CHANNEL FORM:	Unconstrained Anastomosing	GRADIENT (%):	3.7
ACTIVE CHANNEL WIDTH (METERS):	10.2	REACH LENGTH (m):	4,023.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	7.8
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	25.55
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	44
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	11.8	KEY PIECES LWD/ 100m:	N/A

STREAM: EVARTS CREEK — REACH: 1

TRIBUTARY OF: Cavitt Creek

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.5
ACTIVE CHANNEL WIDTH (METERS):	8.3	REACH LENGTH (m):	250.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	4
CONIFERS (w/in 30 meters)/100m:	183	CHANNEL WIDTHS/POOL:	6.9
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	17.2
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	25
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2	KEY PIECES LWD/ 100m:	0

STREAM: FALL CREEK — REACH: 1

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.7
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	2,254.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	20
CONIFERS (w/in 30 meters)/100m:	762	CHANNEL WIDTHS/POOL:	13.8
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	0.44
SILT AND ORGANICS IN RIFFLES (%):	33	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1.5	KEY PIECES LWD/ 100m:	0

STREAM: FALL CREEK — REACH: 2

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	2.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.1
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	3,010.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	21
CONIFERS (w/in 30 meters)/100m:	1808	CHANNEL WIDTHS/POOL:	26.6
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	5.98
SILT AND ORGANICS IN RIFFLES (%):	32	GRAVEL IN RIFFLES (%):	35
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5	KEY PIECES LWD/ 100m:	0.3

STREAM: FRANCIS CREEK — REACH: 1

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	5.6
CHANNEL FORM:	Unconstrained SINGLE	GRADIENT (%):	3.7
ACTIVE CHANNEL WIDTH (METERS):	7.8	REACH LENGTH (m):	2,033.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	7
RIPARIAN VEG:	CONIFERS (30-50CM DBH)	LARGE BOULDERS / 100m:	86.18
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	26.5	KEY PIECES LWD/ 100m:	N/A

STREAM: FRANCIS CREEK — REACH: 2

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	7.1
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.5
ACTIVE CHANNEL WIDTH (METERS):	4.6	REACH LENGTH (m):	905.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	10
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	15.3
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	35.03
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	65
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	15.6	KEY PIECES LWD/ 100m:	N/A

STREAM: FRENCH CREEK REACH: 1

TRIBUTARY OF: North Umpqua River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.9
ACTIVE CHANNEL WIDTH (METERS):	6.9	REACH LENGTH (m):	954.00

SITE TRAITS

LAND USE:	HEAVY GRAZING	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	3.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	8.6
SILT AND ORGANICS IN RIFFLES (%):	20	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	4.2	KEY PIECES LWD/ 100m:	N/A

STREAM: FRENCH CREEK REACH: 2

TRIBUTARY OF: North Umpqua River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	10.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	2,543.00

SITE TRAITS

LAND USE:	LIGHT GRAZING	OPEN SKY (%):	15
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	4.2
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	13.61
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	38
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	7.4	KEY PIECES LWD/ 100m:	N/A

STREAM: FRENCH CREEK — REACH: 3

TRIBUTARY OF: North Umpqua River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	10.7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	599.00

SITE TRAITS

LAND USE:	Light Grazing	OPEN SKY (%):	20
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	5.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	36.39
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	40
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	10	KEY PIECES LWD/ 100m:	N/A

STREAM: HARRINGTON CREEK — REACH: 1

TRIBUTARY OF: Rock Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	5.4
CHANNEL FORM:	Unconstrained SINGLE	GRADIENT (%):	3.5
ACTIVE CHANNEL WIDTH (METERS):	8.3	REACH LENGTH (m):	3,207.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	12
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	11.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	43.78
SILT AND ORGANICS IN RIFFLES (%):	11	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.4	KEY PIECES LWD/ 100m:	N/A

STREAM: HONEY CREEK — REACH: 1

TRIBUTARY OF: North Umpqua River

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	5.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.6
ACTIVE CHANNEL WIDTH (METERS):	6.7	REACH LENGTH (m):	2,346.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	9.8
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	7.93
SILT AND ORGANICS IN RIFFLES (%):	43	GRAVEL IN RIFFLES (%):	16
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	8.8	KEY PIECES LWD/ 100m:	N/A

STREAM: HORSE HEAVEN CREEK — REACH: 2

TRIBUTARY OF: Steamboat Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	2.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.8
ACTIVE CHANNEL WIDTH (METERS):	9.1	REACH LENGTH (m):	996.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	17
CONIFERS (w/in 30 meters)/100m:	2073	CHANNEL WIDTHS/POOL:	5.5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	76.51
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	17
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	3.6	KEY PIECES LWD/ 100m:	0.7

STREAM: HORSE HEAVEN CREEK REACH: 3

TRIBUTARY OF: Steamboat Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.9
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	4.1
ACTIVE CHANNEL WIDTH (METERS):	10.4	REACH LENGTH (m):	2,347.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	853	CHANNEL WIDTHS/POOL:	9
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	100.26
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	15
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.1	KEY PIECES LWD/ 100m:	0.4

STREAM: JIM CREEK REACH: 1

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	12
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.8
ACTIVE CHANNEL WIDTH (METERS):	6.4	REACH LENGTH (m):	327.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	10.9
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	17.13
SILT AND ORGANICS IN RIFFLES (%):	60	GRAVEL IN RIFFLES (%):	13
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6.7	KEY PIECES LWD/ 100m:	0.6

STREAM: JIM CREEK — REACH: 3

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	6.4	REACH LENGTH (m):	758.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	13
CONIFERS (w/in 30 meters)/100m:	1646	CHANNEL WIDTHS/POOL:	8.7
RIPARIAN VEG:	CONIFERS (30-50CM DBH)	LARGE BOULDERS / 100m:	17.28
SILT AND ORGANICS IN RIFFLES (%):	35	GRAVEL IN RIFFLES (%):	23
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	16.1	KEY PIECES LWD/ 100m:	0.5

STREAM:JIM CREEK — REACH: 4

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	7.5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	2,370.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	4
CONIFERS (w/in 30 meters)/100m:	732	CHANNEL WIDTHS/POOL:	7.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	11.05
SILT AND ORGANICS IN RIFFLES (%):	31	GRAVEL IN RIFFLES (%):	31
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	17.6	KEY PIECES LWD/ 100m:	2.3

STREAM: JIM CREEK — REACH: 5

TRIBUTARY OF: Little River

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.6
ACTIVE CHANNEL WIDTH (METERS):	5.5	REACH LENGTH (m):	739.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	0
CONIFERS (w/in 30 meters)/100m:	640	CHANNEL WIDTHS/POOL:	5.6
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	6.77
SILT AND ORGANICS IN RIFFLES (%):	49	GRAVEL IN RIFFLES (%):	31
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	26	KEY PIECES LWD/ 100m:	3.2

STREAM: KELLY CREEK — REACH: 1

TRIBUTARY OF: Rock Creek

ECOREGION: Coast Range Sedimentary

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	10.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	4.3
ACTIVE CHANNEL WIDTH (METERS):	6.8	REACH LENGTH (m):	1,021.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	732	CHANNEL WIDTHS/POOL:	22.6
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	117.73
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	36
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6	KEY PIECES LWD/ 100m:	0.5

STREAM: MCKAY CREEK — REACH: 1

TRIBUTARY OF: Cavitt Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	6.1
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.6
ACTIVE CHANNEL WIDTH (METERS):	4.7	REACH LENGTH (m):	1,985.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	15
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	2.97
SILT AND ORGANICS IN RIFFLES (%):	63	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.8	KEY PIECES LWD/ 100m:	N/A

STREAM: MCKINLEY CREEK — REACH: 1

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	1.7
ACTIVE CHANNEL WIDTH (METERS):	7.7	REACH LENGTH (m):	517.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	6.9
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	47.97
SILT AND ORGANICS IN RIFFLES (%):	5	GRAVEL IN RIFFLES (%):	32
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	11.8	KEY PIECES LWD/ 100m:	N/A

STREAM: MCKINLEY CREEK REACH: 2

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	4.3
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.6
ACTIVE CHANNEL WIDTH (METERS):	6.8	REACH LENGTH (m):	1,108.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	6
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	24.73
SILT AND ORGANICS IN RIFFLES (%):	10	GRAVEL IN RIFFLES (%):	45
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	13.3	KEY PIECES LWD/ 100m:	N/A

STREAM: MCKINLEY CREEK REACH: 4

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	4.9
ACTIVE CHANNEL WIDTH (METERS):	3.5	REACH LENGTH (m):	599.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	59
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	15.86
SILT AND ORGANICS IN RIFFLES (%):		GRAVEL IN RIFFLES (%):	
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	11	KEY PIECES LWD/ 100m:	N/A

STREAM: N. FK. OF E. FK. ROCK CREEK REACH: 2

TRIBUTARY OF: Rock Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	2.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.7
ACTIVE CHANNEL WIDTH (METERS):	8.3	REACH LENGTH (m):	1,515.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	1646	CHANNEL WIDTHS/POOL:	17
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	178.09
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	41
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2.8	KEY PIECES LWD/ 100m:	0.3

STREAM: NO MAN CREEK REACH: 1

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	3.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3
ACTIVE CHANNEL WIDTH (METERS):	7.8	REACH LENGTH (m):	2,234.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	10
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	8.9
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	45.57
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	20.2	KEY PIECES LWD/ 100m:	N/A

STREAM: NO MAN CREEK — REACH: 2

TRIBUTARY OF: Canton Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Steep Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	3.7
ACTIVE CHANNEL WIDTH (METERS):	3.9	REACH LENGTH (m):	1,236.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	0
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	26.9
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	31.88
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	28
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	12.2	KEY PIECES LWD/ 100m:	N/A

STREAM: NORTH FORK CEDAR CREEK — REACH: 1

TRIBUTARY OF: Cedar Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	4.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.6
ACTIVE CHANNEL WIDTH (METERS):	6.1	REACH LENGTH (m):	734.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	28
CONIFERS (w/in 30 meters)/100m:	518	CHANNEL WIDTHS/POOL:	5.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	35.69
SILT AND ORGANICS IN RIFFLES (%):	23	GRAVEL IN RIFFLES (%):	45
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	7.4	KEY PIECES LWD/ 100m:	0.3

STREAM: NORTH FORK CEDAR CREEK REACH: 2

TRIBUTARY OF: Cedar Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	3.3
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.9
ACTIVE CHANNEL WIDTH (METERS):	7.2	REACH LENGTH (m):	1,192.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	14
CONIFERS (w/in 30 meters)/100m:	508	CHANNEL WIDTHS/POOL:	4.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	40.94
SILT AND ORGANICS IN RIFFLES (%):	20	GRAVEL IN RIFFLES (%):	30
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	11.9	KEY PIECES LWD/ 100m:	2.9

STREAM: NORTH FORK CEDAR CREEK REACH: 3

TRIBUTARY OF: Cedar Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	4.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3
ACTIVE CHANNEL WIDTH (METERS):	5.8	REACH LENGTH (m):	966.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	792	CHANNEL WIDTHS/POOL:	4.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	30.12
SILT AND ORGANICS IN RIFFLES (%):	26	GRAVEL IN RIFFLES (%):	47
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	15	KEY PIECES LWD/ 100m:	0.4

STREAM: NORTH FORK CEDAR CREEK REACH: 4

TRIBUTARY OF: Cedar Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	5
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.5
ACTIVE CHANNEL WIDTH (METERS):	6	REACH LENGTH (m):	1,724.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	1073	CHANNEL WIDTHS/POOL:	5.8
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	32.42
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	28
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	7.9	KEY PIECES LWD/ 100m:	2.3

STREAM: STONY CREEK REACH: 1

TRIBUTARY OF: Rock Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	3.2
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.9
ACTIVE CHANNEL WIDTH (METERS):	6.2	REACH LENGTH (m):	1,121.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	23
CONIFERS (w/in 30 meters)/100m:	914	CHANNEL WIDTHS/POOL:	7.2
RIPARIAN VEG:	CONIFERS (50-90CM DBH)	LARGE BOULDERS / 100m:	62.27
SILT AND ORGANICS IN RIFFLES (%):	28	GRAVEL IN RIFFLES (%):	27
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	10.3	KEY PIECES LWD/ 100m:	1.9

STREAM: SURPRISE CREEK REACH: 1

TRIBUTARY OF: N. Fk Of E. Fk Rock Cr.

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2.1
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	4
ACTIVE CHANNEL WIDTH (METERS):	4.9	REACH LENGTH (m):	2,360.00

SITE TRAITS

LAND USE:	OLD GROWTH	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	2723	CHANNEL WIDTHS/POOL:	32.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	86.65
SILT AND ORGANICS IN RIFFLES (%):	15	GRAVEL IN RIFFLES (%):	48
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6.6	KEY PIECES LWD/ 100m:	0.8

STREAM: SUSAN CREEK REACH: 1

TRIBUTARY OF: North Umpqua River

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	9.1
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	4.4
ACTIVE CHANNEL WIDTH (METERS):	10.1	REACH LENGTH (m):	1,185.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	9
CONIFERS (w/in 30 meters)/100m:	305	CHANNEL WIDTHS/POOL:	27.1
RIPARIAN VEG:	Mixed (50-90CM DBH)	LARGE BOULDERS / 100m:	57.72
SILT AND ORGANICS IN RIFFLES (%):	21	GRAVEL IN RIFFLES (%):	26
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.5	KEY PIECES LWD/ 100m:	0.2

STREAM: WAPITI CREEK — REACH: 1

TRIBUTARY OF: N. Fk. Of E. Fk. Rock Cr.

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terrace	VALLEY WIDTH INDEX:	2.8
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.9
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	585.00

SITE TRAITS

LAND USE:	OLD GROWTH	OPEN SKY (%):	2
CONIFERS (w/in 30 meters)/100m:	853	CHANNEL WIDTHS/POOL:	38.2
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	59.32
SILT AND ORGANICS IN RIFFLES (%):	7	GRAVEL IN RIFFLES (%):	35
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6	KEY PIECES LWD/ 100m:	0.2

STREAM: WHITE ROCK CREEK — REACH: 1

TRIBUTARY OF: Cavitt Creek

ECOREGION: Cascades Western South

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terrace	VALLEY WIDTH INDEX:	4.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	1,474.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	1
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	11.8
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	53.12
SILT AND ORGANICS IN RIFFLES (%):	13	GRAVEL IN RIFFLES (%):	18
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.7	KEY PIECES LWD/ 100m:	N/A

South Umpqua River Basin

The South Umpqua originates at the convergence of Black Rock, Castle and Fish Lake creeks. It flows for 103 miles to its confluence with the North Umpqua and drains an area of approximately 1804 square miles. Other important tributaries include Roberts, Lookingglass, North Myrtle, South Myrtle, Cow, Canyon, Days, Elk and Jackson creeks. Galesville Dam on Cow Creek is a barrier to anadromous fish passage. The South Umpqua River basin has recurring low flow and high temperature problems. Lower rainfall in the southern part of the sub-basin exacerbate a system which does not retain water geologically.

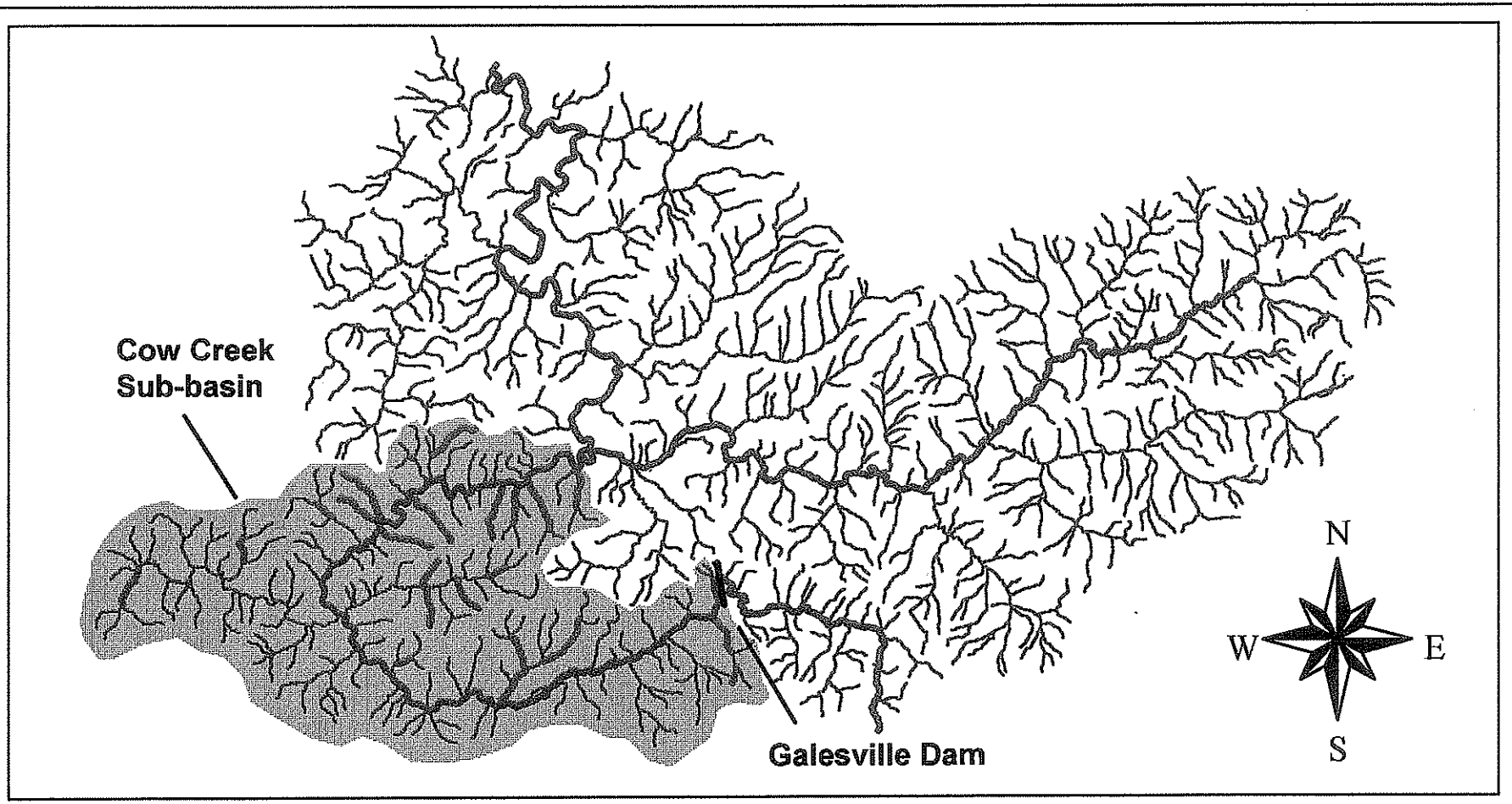
Land ownership along the South Umpqua River is mostly private with a mixture of agricultural, residential and forestry uses. Structures placed in some tributaries of the South Umpqua for irrigation and road building on both private and public lands act as barriers to fish passage. This problem is greatest during low flow periods. In order to maximize the land for agricultural purposes, riparian zones in these areas tend to be in poorer condition than those in forested areas. Grazing, combined with riparian clearing, have had negative impacts throughout the privately held portions of the river.

Driftboat and bank fishing for winter steelhead , bluegill, crappie, hatchery rainbow trout and largemouth bass occurs in the South Umpqua Basin. Species present in the South Umpqua and its tributaries include spring and fall chinook, coho, winter steelhead (proposed federal threatened species), smallmouth bass, brown bullheads, yellow bullheads, black crappie, green sunfish, and American shad. Non game fish species include sculpins, dace, northern squawfish, redside shiners, largescale suckers, three-spine stickleback and Pacific lamprey.

Restoration Considerations

- Projects previously completed or in progress. Information unavailable.
- Currently identified opportunities. We have identified 36 potential restoration reaches in the South Umpqua sub-basin. These reaches are concentrated in the Cow Creek drainage, a high priority area for coho, steelhead, and cutthroat.
- Potential future opportunities. Numerous reaches could still be identified in the South Umpqua. Future opportunities may be identified in the drainage's of Lookinglass, North and South Myrtle, Days, and Jackson Creeks, among others.

South Umpqua River Restoration Reaches



Priority Watershed
Coho, Winter Steelhead and Cutthroat

Potential Restoration Reaches*

*General representation of reach location. Do not use for locating beginning and ending points of reaches.

STREAM: ASH CREEK REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 19.5

CHANNEL FORM: Terrace Constrained

GRADIENT (%): 1

ACTIVE CHANNEL WIDTH (METERS): 5.4

REACH LENGTH (m): 2,119.00

SITE TRAITS

LAND USE: Agricultural

OPEN SKY (%): 21

CONIFERS (w/in 30 meters)/100m: 0

CHANNEL WIDTHS/POOL: 9

RIPARIAN VEG: Deciduous (30-50CM DBH)

LARGE BOULDERS / 100m: 1.6

SILT AND ORGANICS IN RIFFLES (%): 1

GRAVEL IN RIFFLES (%): 69

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 0.1

KEY PIECES LWD/ 100m: 0

STREAM: ASH CREEK REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 16.3

CHANNEL FORM: Terrace Constrained

GRADIENT (%): 2.4

ACTIVE CHANNEL WIDTH (METERS): 4.3

REACH LENGTH (m): 1,795.00

SITE TRAITS

LAND USE: Agricultural

OPEN SKY (%): 3

CONIFERS (w/in 30 meters)/100m: 46

CHANNEL WIDTHS/POOL: 10

RIPARIAN VEG: Deciduous (30-50CM DBH)

LARGE BOULDERS / 100m: 1.89

SILT AND ORGANICS IN RIFFLES (%): 2

GRAVEL IN RIFFLES (%): 69

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 0.6

KEY PIECES LWD/ 100m: 0

STREAM: BLACKHORSE CREEK — REACH: 1

TRIBUTARY OF: Whitehorse Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constrianing Terraces	VALLEY WIDTH INDEX:	6.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.7
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	482.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	305	CHANNEL WIDTHS/POOL:	13.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	15.56
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	4.8	KEY PIECES LWD/ 100m:	0.2

STREAM: BUCK CREEK — REACH: 2

TRIBUTARY OF: Middle Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	2.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	4.9	REACH LENGTH (m):	1,764.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	N/A	CHANNEL WIDTHS/POOL:	8.9
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	9.18
SILT AND ORGANICS IN RIFFLES (%):	8	GRAVEL IN RIFFLES (%):	24
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1.2	KEY PIECES LWD/ 100m:	N/A

STREAM: BUCK CREEK (COW) REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	7.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.8
ACTIVE CHANNEL WIDTH (METERS):	4.7	REACH LENGTH (m):	1,581.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	21
CONIFERS (w/in 30 meters)/100m:	1134	CHANNEL WIDTHS/POOL:	12.1
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	2.15
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	45
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.6	KEY PIECES LWD/ 100m:	0.1

STREAM: CATCHING CREEK REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	15
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	1,586.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	27
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	1	GRAVEL IN RIFFLES (%):	52
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	0.5	KEY PIECES LWD/ 100m:	0

STREAM: CATCHING CREEK — REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	12.7
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	6.6	REACH LENGTH (m):	1,586.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	152	CHANNEL WIDTHS/POOL:	5.8
RIPARIAN VEG:	Mixed (30-50CM DBH)	LARGE BOULDERS / 100m:	9.84
SILT AND ORGANICS IN RIFFLES (%):	1	GRAVEL IN RIFFLES (%):	53
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1	KEY PIECES LWD/ 100m:	0

STREAM: CATCHING CREEK — REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	5.3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	3.1
ACTIVE CHANNEL WIDTH (METERS):	5.3	REACH LENGTH (m):	1,662.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	447	CHANNEL WIDTHS/POOL:	13.4
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	5.9
SILT AND ORGANICS IN RIFFLES (%):	2	GRAVEL IN RIFFLES (%):	37
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	0.7	KEY PIECES LWD/ 100m:	0

STREAM: CATTLE CREEK — REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Umpqua Valleys

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 4.8

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 3.9

ACTIVE CHANNEL WIDTH (METERS): 4.5

REACH LENGTH (m): 1,281.00

SITE TRAITS

LAND USE: Young Timber

OPEN SKY (%): 38

CONIFERS (w/in 30 meters)/100m: 488

CHANNEL WIDTHS/POOL: 16.7

RIPARIAN VEG: Deciduous (15-30CM DBH)

LARGE BOULDERS / 100m: 4.06

SILT AND ORGANICS IN RIFFLES (%): 0

GRAVEL IN RIFFLES (%): 33

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 1.6

KEY PIECES LWD/ 100m: 0

STREAM: CEDAR GULCH CREEK — REACH: 2

TRIBUTARY OF: MIDDLE CREEK

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Multiple Terraces

VALLEY WIDTH INDEX: 2.2

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 3

ACTIVE CHANNEL WIDTH (METERS): 4

REACH LENGTH (m): 1,202.00

SITE TRAITS

LAND USE: Young Timber

OPEN SKY (%): 39

CONIFERS (w/in 30 meters)/100m: N/A

CHANNEL WIDTHS/POOL: 15

RIPARIAN VEG: Mixed (30-50CM DBH)

LARGE BOULDERS / 100m: 7.07

SILT AND ORGANICS IN RIFFLES (%): 68

GRAVEL IN RIFFLES (%): 10

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 5.1

KEY PIECES LWD/ 100m: N/A

STREAM: COUNCIL CREEK — REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constrianing Terraces	VALLEY WIDTH INDEX:	10
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	3.8	REACH LENGTH (m):	554.00

SITE TRAITS

LAND USE:	Rural Residential	OPEN SKY (%):	6
CONIFERS (w/in 30 meters)/100m:	0	CHANNEL WIDTHS/POOL:	13.3
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	50
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	0.5	KEY PIECES LWD/ 100m:	0

STREAM: COUNCIL CREEK — REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.4
ACTIVE CHANNEL WIDTH (METERS):	4.4	REACH LENGTH (m):	530.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	945	CHANNEL WIDTHS/POOL:	7.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	2.08
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	32
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	3.2	KEY PIECES LWD/ 100m:	0.6

STREAM: DADS CREEK REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 2.9

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 2.2

ACTIVE CHANNEL WIDTH (METERS): 7.5

REACH LENGTH (m): 2,511.00

SITE TRAITS

LAND USE: Large Timber

OPEN SKY (%): 10

CONIFERS (w/in 30 meters)/100m: 686

CHANNEL WIDTHS/POOL: 20.1

RIPARIAN VEG: Deciduous (30-50CM DBH)

LARGE BOULDERS / 100m:

SILT AND ORGANICS IN RIFFLES (%): 19

GRAVEL IN RIFFLES (%): 20

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 6.4

KEY PIECES LWD/ 100m: 0.4

STREAM: DOE CREEK REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 5

CHANNEL FORM: Terrace Constrained

GRADIENT (%): 1.1

ACTIVE CHANNEL WIDTH (METERS): 4.4

REACH LENGTH (m): 1,928.00

SITE TRAITS

LAND USE: Second Growth

OPEN SKY (%): 7

CONIFERS (w/in 30 meters)/100m: 762

CHANNEL WIDTHS/POOL: 11.4

RIPARIAN VEG: Deciduous (30-50CM DBH)

LARGE BOULDERS / 100m: 0

SILT AND ORGANICS IN RIFFLES (%): 1

GRAVEL IN RIFFLES (%): 58

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 1.7

KEY PIECES LWD/ 100m: 0

STREAM: DOE CREEK — REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	9.6
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.9
ACTIVE CHANNEL WIDTH (METERS):	3.7	REACH LENGTH (m):	2,071.00

SITE TRAITS

LAND USE:	Young Timber	OPEN SKY (%):	25
CONIFERS (w/in 30 meters)/100m:	951	CHANNEL WIDTHS/POOL:	17.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	0.14
SILT AND ORGANICS IN RIFFLES (%):	1	GRAVEL IN RIFFLES (%):	63
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	0.6	KEY PIECES LWD/ 100m:	0

STREAM: DOE CREEK — REACH: 4

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.5
ACTIVE CHANNEL WIDTH (METERS):	3.3	REACH LENGTH (m):	1,142.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	1219	CHANNEL WIDTHS/POOL:	18.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	1	GRAVEL IN RIFFLES (%):	57
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2.4	KEY PIECES LWD/ 100m:	0

STREAM: ELK VALLEY CREEK — REACH: 3

TRIBUTARY OF: W. FK. Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	6.5
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.8
ACTIVE CHANNEL WIDTH (METERS):	5.2	REACH LENGTH (m):	590.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	41
CONIFERS (w/in 30 meters)/100m:	3292	CHANNEL WIDTHS/POOL:	28.3
RIPARIAN VEG:	CONIFERS (15-30CM DBH)	LARGE BOULDERS / 100m:	384.58
SILT AND ORGANICS IN RIFFLES (%):	70	GRAVEL IN RIFFLES (%):	25
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	4.1	KEY PIECES LWD/ 100m:	6

STREAM: IRON MTN CREEK — REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	7.8
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.8
ACTIVE CHANNEL WIDTH (METERS):	4.8	REACH LENGTH (m):	831.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	14
CONIFERS (w/in 30 meters)/100m:	61	CHANNEL WIDTHS/POOL:	11.3
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	8.9
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	29
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1.9	KEY PIECES LWD/ 100m:	0.2

STREAM: IRON MTN CREEK — REACH: 4

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	2
CHANNEL FORM:	Constraining Hillslope	GRADIENT (%):	3.2
ACTIVE CHANNEL WIDTH (METERS):	3.5	REACH LENGTH (m):	1,291.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	11
CONIFERS (w/in 30 meters)/100m:	732	CHANNEL WIDTHS/POOL:	23.5
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	0.15
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	62
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6.1	KEY PIECES LWD/ 100m:	0.6

STREAM: LITTLE DADS CREEK — REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.6
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	1,473.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	4
CONIFERS (w/in 30 meters)/100m:	1300	CHANNEL WIDTHS/POOL:	22.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	10.66
SILT AND ORGANICS IN RIFFLES (%):	10	GRAVEL IN RIFFLES (%):	80
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	8.8	KEY PIECES LWD/ 100m:	1.5

STREAM: MIDDLE CREEK REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces
VALLEY WIDTH INDEX: 3.9

CHANNEL FORM: Alt. Hillslope/Terrace
GRADIENT (%): 1.9

ACTIVE CHANNEL WIDTH (METERS): 7.1
REACH LENGTH (m): 3,443.00

SITE TRAITS

LAND USE: Second Growth
OPEN SKY (%): 12

CONIFERS (w/in 30 meters)/100m: N/A
CHANNEL WIDTHS/POOL: 19.2

RIPARIAN VEG: Mixed (15-30CM DBH)
LARGE BOULDERS / 100m: 9.47

SILT AND ORGANICS IN RIFFLES (%): 8
GRAVEL IN RIFFLES (%): 36

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 1.7
KEY PIECES LWD/ 100m: N/A

STREAM: PEAVINE CREEK REACH: 1

TRIBUTARY OF: Middle Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces
VALLEY WIDTH INDEX: 2.7

CHANNEL FORM: Alt. Hillslope/Terrace
GRADIENT (%): 3.2

ACTIVE CHANNEL WIDTH (METERS): 4.8
REACH LENGTH (m): 711.00

SITE TRAITS

LAND USE: Young Timber
OPEN SKY (%): 31

CONIFERS (w/in 30 meters)/100m: N/A
CHANNEL WIDTHS/POOL: 16.5

RIPARIAN VEG: Deciduous (15-30CM DBH)
LARGE BOULDERS / 100m: 6.75

SILT AND ORGANICS IN RIFFLES (%): 5
GRAVEL IN RIFFLES (%): 15

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 1
KEY PIECES LWD/ 100m: N/A

STREAM: PEAVINE CREEK — REACH: 2

TRIBUTARY OF: Middle Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 3.7

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 3

ACTIVE CHANNEL WIDTH (METERS): 4.9

REACH LENGTH (m): 314.00

SITE TRAITS

LAND USE: Young Timber

OPEN SKY (%): 30

CONIFERS (w/in 30 meters)/100m: N/A

CHANNEL WIDTHS/POOL: 4.9

RIPARIAN VEG: Deciduous (3-15CM DBH)

LARGE BOULDERS / 100m: 12.74

SILT AND ORGANICS IN RIFFLES (%): 5

GRAVEL IN RIFFLES (%): 26

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 2.5

KEY PIECES LWD/ 100m: N/A

STREAM: RUSSELL CREEK — REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 9.3

CHANNEL FORM: Terrace Constrained

GRADIENT (%): 4.4

ACTIVE CHANNEL WIDTH (METERS): 4.6

REACH LENGTH (m): 3,312.00

SITE TRAITS

LAND USE: Rural Residential

OPEN SKY (%): 18

CONIFERS (w/in 30 meters)/100m: 91

CHANNEL WIDTHS/POOL: 30

RIPARIAN VEG: Deciduous (15-30CM DBH)

LARGE BOULDERS / 100m: 2.84

SILT AND ORGANICS IN RIFFLES (%): 0

GRAVEL IN RIFFLES (%): 23

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 1.5

KEY PIECES LWD/ 100m: 0

STREAM: TABLE CREEK — REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Multiple Terraces	VALLEY WIDTH INDEX:	3.9
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	7.2	REACH LENGTH (m):	2,200.00

SITE TRAITS

LAND USE:	Mature Timber	OPEN SKY (%):	8
CONIFERS (w/in 30 meters)/100m:	975	CHANNEL WIDTHS/POOL:	17.1
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	29.27
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	20
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2.1	KEY PIECES LWD/ 100m:	0.3

STREAM: UNION CREEK — REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Moderate Valley	VALLEY WIDTH INDEX:	3
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2.9
ACTIVE CHANNEL WIDTH (METERS):	6.2	REACH LENGTH (m):	1,856.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	15
CONIFERS (w/in 30 meters)/100m:	561	CHANNEL WIDTHS/POOL:	6.4
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	6.3
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	56
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6.8	KEY PIECES LWD/ 100m:	1.3

STREAM: W. FK. COW CREEK — REACH: 6

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4.2
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.4
ACTIVE CHANNEL WIDTH (METERS):	10.3	REACH LENGTH (m):	3,320.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	26
CONIFERS (w/in 30 meters)/100m:	1504	CHANNEL WIDTHS/POOL:	13.5
RIPARIAN VEG:	Mixed (15-30CM DBH)	LARGE BOULDERS / 100m:	4.85
SILT AND ORGANICS IN RIFFLES (%):	12	GRAVEL IN RIFFLES (%):	32
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1.6	KEY PIECES LWD/ 100m:	0.5

STREAM: WALKER CREEK — REACH: 1

TRIBUTARY OF: W. FK. Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	4
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	2.1
ACTIVE CHANNEL WIDTH (METERS):	9.7	REACH LENGTH (m):	434.00

SITE TRAITS

LAND USE:	Large Timber	OPEN SKY (%):	5
CONIFERS (w/in 30 meters)/100m:	1920	CHANNEL WIDTHS/POOL:	3.2
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS / 100m:	605.53
SILT AND ORGANICS IN RIFFLES (%):	15	GRAVEL IN RIFFLES (%):	53
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	10.4	KEY PIECES LWD/ 100m:	0.9

STREAM: WHITEHORSE CREEK REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 10

CHANNEL FORM: Terrace Constrained

GRADIENT (%): 2.1

ACTIVE CHANNEL WIDTH (METERS): 7.1

REACH LENGTH (m): 2,820.00

SITE TRAITS

LAND USE: Second Growth

OPEN SKY (%): 13

CONIFERS (w/in 30 meters)/100m: 951

CHANNEL WIDTHS/POOL: 11.7

RIPARIAN VEG: Mixed (15-30CM DBH)

LARGE BOULDERS / 100m: 5.57

SILT AND ORGANICS IN RIFFLES (%): 7

GRAVEL IN RIFFLES (%): 52

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 4.2

KEY PIECES LWD/ 100m: 0.2

STREAM: WHITEHORSE CREEK REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM: Constraining Terraces

VALLEY WIDTH INDEX: 6.1

CHANNEL FORM: Alt. Hillslope/Terrace

GRADIENT (%): 4.1

ACTIVE CHANNEL WIDTH (METERS): 6.3

REACH LENGTH (m): 1,374.00

SITE TRAITS

LAND USE: Second Growth

OPEN SKY (%): 15

CONIFERS (w/in 30 meters)/100m: 549

CHANNEL WIDTHS/POOL: 8.9

RIPARIAN VEG: Mixed (15-30CM DBH)

LARGE BOULDERS / 100m: 13.25

SILT AND ORGANICS IN RIFFLES (%): 10

GRAVEL IN RIFFLES (%): 46

PIECES OF WOOD (0.15 x 3m)/ 100 METERS: 4.5

KEY PIECES LWD/ 100m: 0.2

STREAM: WHITEHORSE CREEK — REACH: 3

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	4.1
ACTIVE CHANNEL WIDTH (METERS):	5.8	REACH LENGTH (m):	554.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:		CHANNEL WIDTHS/POOL:	11
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	14.8
SILT AND ORGANICS IN RIFFLES (%):	16	GRAVEL IN RIFFLES (%):	33
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	3.4	KEY PIECES LWD/ 100m:	0.2

STREAM: WINDY CREEK — REACH: 1

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	8.1	REACH LENGTH (m):	2,531.00

SITE TRAITS

LAND USE:	Industrial	OPEN SKY (%):	18
CONIFERS (w/in 30 meters)/100m:	37	CHANNEL WIDTHS/POOL:	5
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	1.22
SILT AND ORGANICS IN RIFFLES (%):	0	GRAVEL IN RIFFLES (%):	79
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	0.9	KEY PIECES LWD/ 100m:	0

STREAM: WINDY CREEK — REACH: 2

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1
ACTIVE CHANNEL WIDTH (METERS):	6.3	REACH LENGTH (m):	3,088.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	30
CONIFERS (w/in 30 meters)/100m:	20	CHANNEL WIDTHS/POOL:	7.4
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	0.39
SILT AND ORGANICS IN RIFFLES (%):	3	GRAVEL IN RIFFLES (%):	74
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	1.4	KEY PIECES LWD/ 100m:	0

STREAM: WINDY CREEK — REACH: 4

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	14
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	1.2
ACTIVE CHANNEL WIDTH (METERS):	4.7	REACH LENGTH (m):	4,983.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	15
CONIFERS (w/in 30 meters)/100m:	564	CHANNEL WIDTHS/POOL:	10.3
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	6	GRAVEL IN RIFFLES (%):	68
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2.2	KEY PIECES LWD/ 100m:	0.2

STREAM: WINDY CREEK — REACH: 5

TRIBUTARY OF: Cow Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Wide Floodplain	VALLEY WIDTH INDEX:	8.7
CHANNEL FORM:	Unconstrained Braided	GRADIENT (%):	2.3
ACTIVE CHANNEL WIDTH (METERS):	4.3	REACH LENGTH (m):	2,923.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	17
CONIFERS (w/in 30 meters)/100m:	536	CHANNEL WIDTHS/POOL:	13.2
RIPARIAN VEG:	Deciduous (3-15CM DBH)	LARGE BOULDERS / 100m:	4.45
SILT AND ORGANICS IN RIFFLES (%):	4	GRAVEL IN RIFFLES (%):	68
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	2.6	KEY PIECES LWD/ 100m:	0.2

STREAM: WOOD CREEK — REACH: 1

TRIBUTARY OF: Windy Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	20
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	0.7
ACTIVE CHANNEL WIDTH (METERS):	4.5	REACH LENGTH (m):	891.00

SITE TRAITS

LAND USE:	Agricultural	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	244	CHANNEL WIDTHS/POOL:	7.7
RIPARIAN VEG:	Deciduous (15-30CM DBH)	LARGE BOULDERS / 100m:	0
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	60
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	5.3	KEY PIECES LWD/ 100m:	0

STREAM: WOOD CREEK — REACH: 2

TRIBUTARY OF: Windy Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	15.6
CHANNEL FORM:	Alt. Hillslope/Terrace	GRADIENT (%):	2
ACTIVE CHANNEL WIDTH (METERS):	4.6	REACH LENGTH (m):	3,588.00

SITE TRAITS

LAND USE:	Second Growth	OPEN SKY (%):	16
CONIFERS (w/in 30 meters)/100m:	213	CHANNEL WIDTHS/POOL:	15.9
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	2.84
SILT AND ORGANICS IN RIFFLES (%):	18	GRAVEL IN RIFFLES (%):	45
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	6.5	KEY PIECES LWD/ 100m:	0.1

STREAM: WOOD CREEK — REACH: 3

TRIBUTARY OF: Windy Creek

ECOREGION: Coast Range Klamath Siskiyou

BASE CHARACTERISTICS

VALLEY FORM:	Constraining Terraces	VALLEY WIDTH INDEX:	9.7
CHANNEL FORM:	Terrace Constrained	GRADIENT (%):	3.7
ACTIVE CHANNEL WIDTH (METERS):	4	REACH LENGTH (m):	1,431.00

SITE TRAITS

LAND USE:	Timber Harvest	OPEN SKY (%):	7
CONIFERS (w/in 30 meters)/100m:	732	CHANNEL WIDTHS/POOL:	16.1
RIPARIAN VEG:	Deciduous (30-50CM DBH)	LARGE BOULDERS / 100m:	3.49
SILT AND ORGANICS IN RIFFLES (%):	24	GRAVEL IN RIFFLES (%):	51
PIECES OF WOOD (0.15 x 3m)/ 100 METERS:	9.9	KEY PIECES LWD/ 100m:	0.5