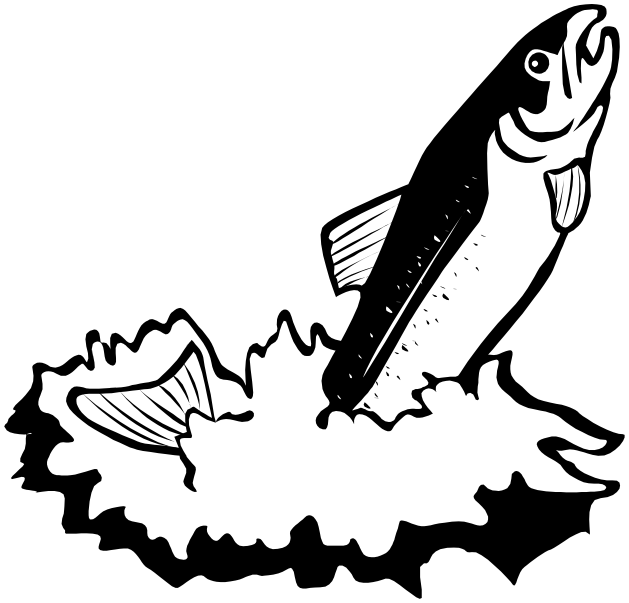
Umpqua Basin Fish Access Team (UBFAT)

Basin Plan



Umpqua Basin Fish Barrier Inventory Assessment and Scoring Project

August 2003 - Present

Table of Contents

Appendices:

Charts:

Maps:

Diagrams:

Tables:

List of Acronyms:

BLM	Bureau of Land Management
NOAA	National Oceanic and Atmospheric Administration
ODOT	Oregon Department of Transportation
ODFW	Oregon Department of Fish & Wildlife
OWRD	Oregon Water Resources Department
PFB	Potential Fish Barrier
SWCD	Soil and Water Conservation District
UBFAT	Umpqua Basin Fish Access Team
PUR	Partnership for the Umpqua Rivers
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

Umpqua Basin Fish Access Team Members

Walt Barton	Douglas Soil & Water Conservation District
Ann Kercher	Douglas Soil & Water Conservation District
Jim Lee	Douglas Soil & Water Conservation District
Dustin Williams	Umpqua Soil & Water Conservation District
Bob Kinyon	Partnership for the Umpqua Rivers
Eric Riley	Partnership for the Umpqua Rivers
Lee Russell	Elk Creek Watershed Council
Jen Bailey	Elk Creek Watershed Council
George Black	Smith River Watershed Council
Heidi Kincaid	Private Contractor
Don Olivant	Private Landowner, Small Woodlands Association
Jake Gibbs	Lone Rock Timber Co.
Bill Moore	Seneca Jones Timber Co.
Dave Russell	Roseburg Resources Company (Roseburg Forest Products)
Sam Moyers	Oregon Department of Fish & Wildlife
Bill Kennedy	Oregon Department of Fish & Wildlife
Jim Muck	Oregon Department of Fish & Wildlife
Jim Brick	Oregon Department of Fish & Wildlife
Sam Dunnavant	Oregon Department of Transportation
Jake Winn	Bureau of Land Management, Roseburg
Scott Lightcap	Bureau of Land Management, Roseburg
	Bureau of Land Management, Coos Bay
	Bureau of Land Management, Medford
Todd Buchholz	US Forest Service, Umpqua National Forest
Ken Phippen	National Oceanic and Atmospheric Administration

Chapter 1: Project Overview

INTRODUCTION

Native salmonid populations in the Umpqua Basin have typically been recognized throughout the Northwest as legendary. Over the last 30 years there have been noticeable declines in salmonid numbers throughout the basin, particularly in coho salmon. Many factors have contributed to this decline and, depending on the species, there have been severe impacts on the associated commercial and sport industries. The constructions of man-made barriers, over harvest, agriculture/timber practices, and urban development have all contributed to the population declines. In some cases these declines have lead to the listing of threatened species under the Endangered Species Act. The Oregon Fish Passage Statute (see Appendix A: Oregon Fish Passage Statutes), regulates that a fishway is required for an artificial obstruction that crosses a body of water. Man-made barriers that restrict fish passage have been recognized as a contributor to the decline in salmonid population numbers. In an effort to better understand and define potential fish barriers and the problems associated with them, the Umpqua Basin Fish Access Team (UBFAT) was formed.

The Umpqua Basin Fish Access Team, among other things, was created to assess fish passage issues within the Umpqua River Basin. UBFAT, a multi-organizational, interdisciplinary committee, has worked to identify existing fish passage barriers, develop a consistent method for prioritizing their value for correction, and develop a strategic plan for future work. The UBFAT includes representatives from various groups who are actively involved with watershed and fisheries management. These include Douglas Soil and Water Conservation District (DSWCD), Partnership for the Umpqua Rivers (PUR), Oregon Department of Fish and Wildlife (ODFW), Bureau of Land Management (BLM), United States Forest Service (USFS), National Oceanic and Atmospheric Administration (NOAA), United States Fish and Wildlife Service (USFWS), Oregon Department of Transportation (ODOT), Douglas County, the private timber industry, and Umpqua Watersheds, Inc.

There is no known, current or past, basin-wide assessment for the Umpqua River Basin; specifically with reference to fish passage, barrier identification, prioritization and correction. The BLM, Douglas County, and USFS have conducted smaller assessments on individual watersheds with reference to potential fish barriers. However, many other resource managers do not have detailed information about potential fish barriers and no one has brought all of the information together to be considered in a basin-wide approach. Since most work has been done in relatively small areas, there is currently no way to compare the value of each project, relative to other areas within the basin. Additionally, without a standardized method of evaluation, the importance of each barrier is difficult to compare.

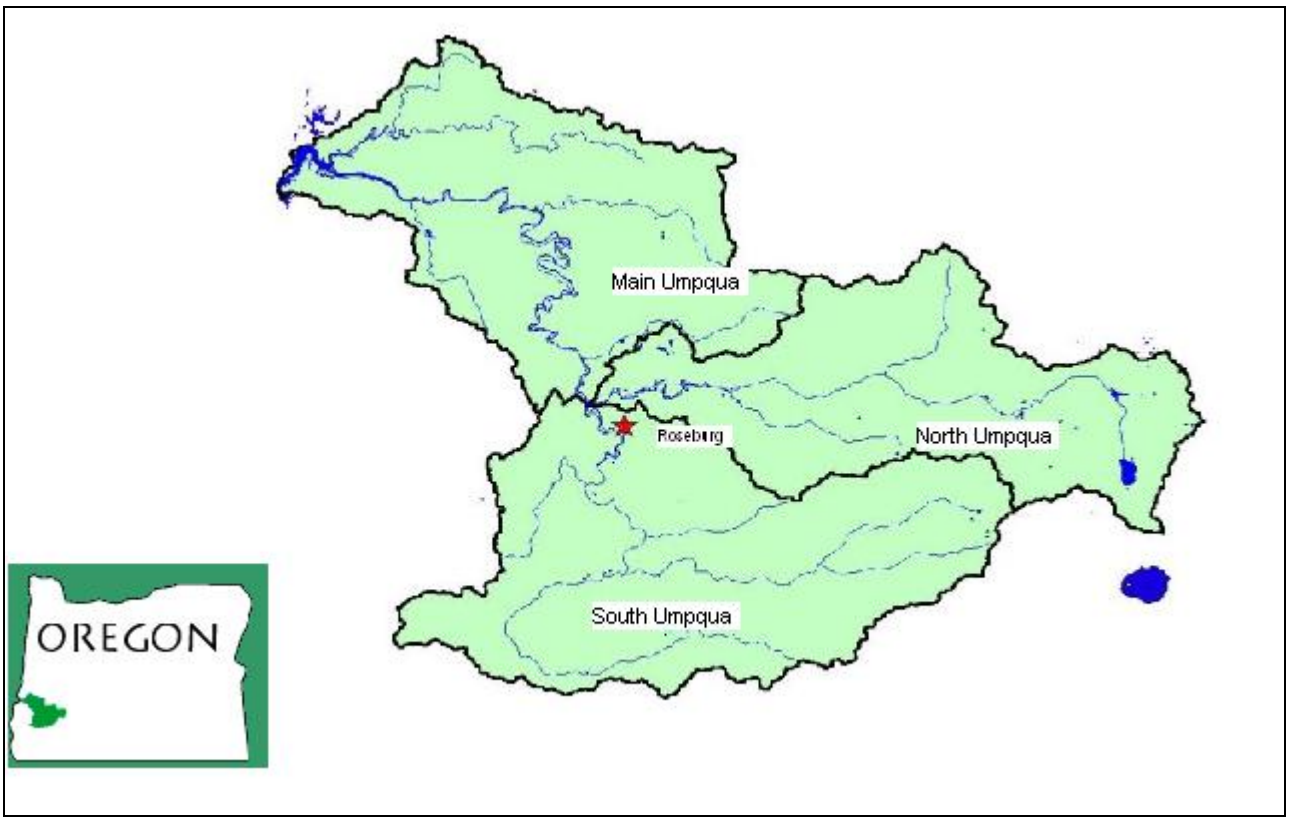
Considering the significant cost involved in repairing/replacing structures that create fish barriers and limited available funds, it is only practical to focus time and resources on the sites that have the most beneficial impact on fish access and habitat. This project will put together a basin-wide look at potential fish barriers and fish access. Success will be determined by comparing the actual outcome with the desired outcome. The desired outcome will be (1) a ranking system that is universally supported by those who participated,

(2) a compilation of all existing data, (3) a ranking value (score) for all known barriers, and (4) a strategic plan for future work based on this project.

SCOPE

The project is a collaborative effort, managed by Douglas Soil and Water Conservation District, which covers the entire Umpqua River Basin. This area includes two soil and water conservation districts, three BLM districts, two national forests, three watershed councils, and four counties. The Umpqua River Basin is a third field watershed which covers approximately 3,000,000 acres (see Map 1: The Umpqua River Basin). The project will cover all participating federal, state and private lands within the basin. Data will be compiled from all participating organizations in order to standardize the information so that a comparison can be made. Field measurements will be taken to confirm compiled data and fill any voids in information. The overall intent of the project is to develop a comprehensive, basin specific, non-regulatory tool that is intended to be used by land managers to make better informed decisions concerning structure replacement and fish passage.

Map 1: The Umpqua River Basin



GOALS AND OBJECTIVES

The goal of the project is to provide a means for improving the way we look at fish access throughout the Umpqua River Basin, with reference to potential fish barriers. The project seeks to develop an accurate inventory of fish migration barriers in the Umpqua Basin and prioritize them for correction based on barrier magnitude and resource benefit. The project is a multi-year project that will evolve over time. The project has been separated into 3 phases. Phase 1 included the collection of baseline data, development of the decision (ranking) matrix, and the formation of the Umpqua Basin Fish Access Team (UBFAT). Phase 2 focused on the initial collection of field data (predominately public lands) and the creation of a computer model that executes the decision matrix. Phase 3 is focused on data collection on private lands, scoring surveyed culverts, public outreach and education. All relevant partners continue to participate in this process, including BLM, US Forest Service, NOAA Fisheries, US Fish & Wildlife Service, Oregon Department of Fish and Game, Oregon Department of Transportation, Oregon State University Libraries, Institute of Natural Resources, Douglas County, the Partnership for the Umpqua Rivers, Elk Creek Watershed Council, Douglas Soil and Water Conservation District, Umpqua Soil and Water Conservation District, small woodland owners, private industrial timber, environmental interest groups, etc. The UBFAT has been so successful due to its diverse membership and participation from its members. The group is made up of approximately 25 members who regularly attend the group's coordination meetings. These meetings are held a couple of times a year to give an update to the members and discuss future work focus. The Partnership for the Umpqua Rivers Watershed Council has a sub-committee dedicated to UBFAT and the prioritization process. The project has received recognition at the state level and ODFW and ODOT are considering adopting some of the surveying protocols that have been developed through the process. Although much work has been done (to date over 1300 culverts have been surveyed), there is still an incredible amount of surveying and landowner outreach to be done.

PHASE I Objectives:

1st Objective: Review the Rogue Basin Fish Access Team Strategic Plan (August 2000). Evaluate what is needed in the Umpqua Basin. (Done by Project Coordinator and UBFAT Committee)

2nd Objective: Determine which factors will be relevant information (barrier type, habitat areas, species present, severity of barrier, etc.) in the scoring process. (Done by the UBFAT Committee)

3rd Objective: Identify and acquire all available data that have been collected by the various resource managers in the Umpqua River Basin (BLM, USFS, Douglas County, ODOT, private timber companies, etc.) that relates to the factors identified in the 2nd Objective. (Done by the Project Coordinator)

4th Objective: Create a comprehensive data set in a central location in a standardized format (likely ArcView/Map). (Done by Project Manager and GIS Technicians)

5th Objective: Create a data layer of all known barrier locations to be matched with all other available data layers. (Done by GIS Technician)

6th Objective: Create a barrier ranking system that will act as a guideline for prioritizing on-the-ground fish passage work. (Done by the UBFAT Committee)

7th Objective: Complete a ranking of all known barriers using the data collected in the 4th Objective, the factors collected in the 2nd Objective, and the system from the 5th Objective. (Done by the Project Manager)

8th Objective: Create a formal plan for future work based on the first phase (this will occur concurrently with all other activities). (Overseen by the UBFAT Committee and documented by the Project Manager)

PHASE II Objectives:

1st Objective: Collect data on public and private industrial timber lands to fill in gaps identified in initial data collected in Phase 1, Objective 3. Data collection focus will be narrowed to fish bearing streams and associated tributaries. (Data collected by DSWCD field crews)

2nd Objective: Complete and refine computer model to be used in future prioritization efforts (Computer model work to be completed by outside contractor)

3rd Objective: Initiate limited private landowner outreach to showcase work efforts and build support throughout the Umpqua Basin. (Completed by DSWCD, PUR, and UBFAT Members)

PHASE III Objectives:

1st Objective: Collect data on individual private lands to complete data collection efforts. (Data collected by DSWCD field crews)

2nd Objective: Continue landowner outreach efforts focusing on individual watersheds. Multiple watersheds will be looked at simultaneously. Develop access letter to gain access to private lands. (Completed by DSWCD, UBFAT)

3rd Objective: Use computer model to score potential fish barriers and identify potential restoration projects. (Completed by DSWCD, UBFAT, private contractor)

4th Objective: Continue Basin and Statewide outreach to develop project support and endorsement. Focus will be on implementation of restoration projects and the use of the scoring model as a tool. (DSWCD, UBFAT, PUR, ODFW)

5th Objective: Make data available on Umpqua Basin Explorer Website for natural resource educational purposes. (DSWCD, PUR)

6th Objective: Make data available to private landowners (individual and industrial timber) to promote sound land management decision making. (DSWCD, private contractor)

7th Objective: Initiate restoration projects using data from Objective 3. (SWCDs, watershed councils

Chapter 2: Scoring Process

The UBFAT committee began meeting in August 2002 in order to begin identifying the key factors involved in fish passage. The initial goal was to identify all physical and biological parameters that affect fish passage. A species-specific list of parameters was established and work began to develop a ranking system that would score out each potential barrier. This score would then be ranked against other scored potential barriers and priority could then be assigned.

SCORING MATRIX

The Scoring Matrix is designed to serve as the scoring system for PFBs. The matrix is set up to score each PFB according to the how much value there is in its repair or replacement. Values were assigned to the amount of habitat opened for each salmonid species, the quality of the habitat upstream of the site, and the number of fixable barriers downstream of the site. Additional bonus points were awarded to those sites that had some associated historical data.

The score for additional habitat opened upstream was valued according to the distance (miles) of additional habitat that would be opened for each species. Each species was assigned a value according to the distance of habitat that would be opened upstream. The sum of the all columns is the overall score for the category. Coho salmon are valued higher because they are currently a species of concern.

The score for the quality of habitat upstream of the site is based on a Good, Fair, and Poor scale. The parameters for each alternative were arrived at through consultation with ODFW fisheries biologists. The parameters are as follows:

Good = <2% upstream gradient, >5 ft wide, >50% gravel substrate, >75% shade;
Fair = <4% upstream gradient, 3-5 ft wide, 25%-50% gravel substrate, 50%-75% shade;
Poor = >4% upstream gradient, <3 ft wide, <25% gravel substrate, <50% shade**.**

The score for the number of barriers below the site where passage restoration is possible is valued according to the actual number of known fish barriers downstream of the site in question. The greater the number of fixable barriers below the site, the less likely that it's correction will benefit salmonid populations. The associated costs, time, and resources required to correct multiple barriers below the site would either be unreasonable or not feasible. This would make fixing the barrier at the site of little value with reference to fish passage and habitat access. If there are any non-fixable barriers below the site (i.e.: a natural barrier), then there is no value in correcting it for fish passage.

The Extra Credit score is awarded to a site if there is any available historic data that shows there were once fish present above the site. This is assuming that the site is a barrier and its correction would reopen fish habitat, which was once used by salmonids.

The assigned values for each of the above matrix categories (not including the Extra Credit Score) are summed to get the Unmodified Score (Chart 1: Potential Fish Barrier

Scoring Flowchart). The Unmodified Score will later be adjusted according to the Magnitude Factors.

Table 2: Bradbury Process Ranking of Umpqua Basin 5th Field Watersheds.

WATERSHED	RANKING
Elk Creek/Umpqua River	High
Middle South Umpqua River/Dumont Creek	High
Steamboat Creek	High
Upper Smith River	High
Middle North Umpqua River	High
Middle Umpqua River	High
Upper South Umpqua River	High
Canton Creek	High
Middle Cow Creek	High
Lower Cow Creek	High
Rock Creek/North Umpqua River	High
Lower Smith River	Medium
Upper Umpqua River	Medium
Jackson Creek	Medium
Lower North Umpqua River	Medium
Fish Creek	Medium
Little River	Medium
South Umpqua River	Medium
West Fork Cow Creek	Medium
Boulder Creek/North Umpqua River	Medium
Ollala Creek/Lookingglass Creek	Medium
Myrtle Creek	Medium
Lower Umpqua River	Medium
Calapooya Creek	Low
Mill Creek/Umpqua River	Low
Upper North Umpqua River	Low
Clearwater Creek	Low
Elk Creek/South Umpqua River	Low
Lemolo Lake	Low
Lower South Umpqua River	Low
Middle South Umpqua River/Rice Creek	Low
Upper Cow Creek	Low
Diamond Lake	Low

MAGNITUDE FACTORS

The Magnitude Factors are designed to serve as a weighting system in order to differentiate between culverts when all scoring categories are the same. There are three Magnitude Factors, whose product results in a Magnitude Factor Value, which when

multiplied by the Unmodified Score, becomes the Modified Score. The three Magnitude Factors are: Seasonality, Structure Construction and Culvert Severity (see Chart 1: Potential Fish Barrier Scoring Flowchart and Appendix C: Culvert Severity Factors). The Magnitude Factors have been put together by the UBFAT in order to assess additional site specific characteristics that are not addressed in the Scoring Matrix.

The Seasonality Factor is divided into 3 distinct conditions; Seasonal Dry, Seasonal Pool, and Perennial. Stream systems will fall into one of two categories: Seasonal or Perennial. The Seasonal category has been broken down to differentiate between a system that completely dries up and one that dries to a series of deep pools. The assumption is that a system that has water in it year-around is potentially more beneficial than one that pools up in the dry months, which in turn, is more beneficial than one that completely dries up during the dry months.

The Construction Factor is divided into 2 categories: Manmade and Natural. The values associated with each category assume that a natural barrier is significantly harder to repair than a manmade barrier, and therefore should rank out lower when priorities are being assigned.

The Culvert Severity Factor is divided into 3 categories which consider how the outfall height, the outfall height to pool depth ratio, and the culvert length and slope affect fish passage (Appendix C: Culvert Severity Factors). The overall Severity Factor is derived from the highest factor value that is attained in any one of the three categories. The Outfall Height value looks at the biological (jumping) abilities of salmonids and is broken out into height classifications by age and species. The Outfall Height to Pool Depth Ratio Factor is based on 1:1.25 as the standard. In order for a culvert to meet the standard, the plunge pool must be at least 1.25 times as deep as the outfall height. A ratio that is less does not meet the standard. The values for culvert length and slope were derived from consultation with various fisheries biologists. The assumption is that longer culverts with greater slopes will negatively affect fish passage.

SCORING AND RANKING

The scoring of individual potential fish barriers is best described in Chart 1: Potential Fish Barrier Scoring Flowchart. The Scoring Matrix scores are summed, with the exception of the Extra Credit score, which is the Unmodified Score. The Unmodified Score is then multiplied by the Magnitude Factor Value to get the Modified Score. The Magnitude Factor Score is the highest value of the three Magnitude Factors. The Final Score is the Modified Score with the Historical Data score added in. The higher the score for the PFB, the higher it ranks out. A PFB with a low score, in theory, will receive less focus when funds become available, because its repair and/or replacement will have less benefit to fish and fish passage. Before any fish passage improvements are designed and/or constructed, UBFAT recommends that the top 25 PFBs be reviewed for practicability and feasibility.

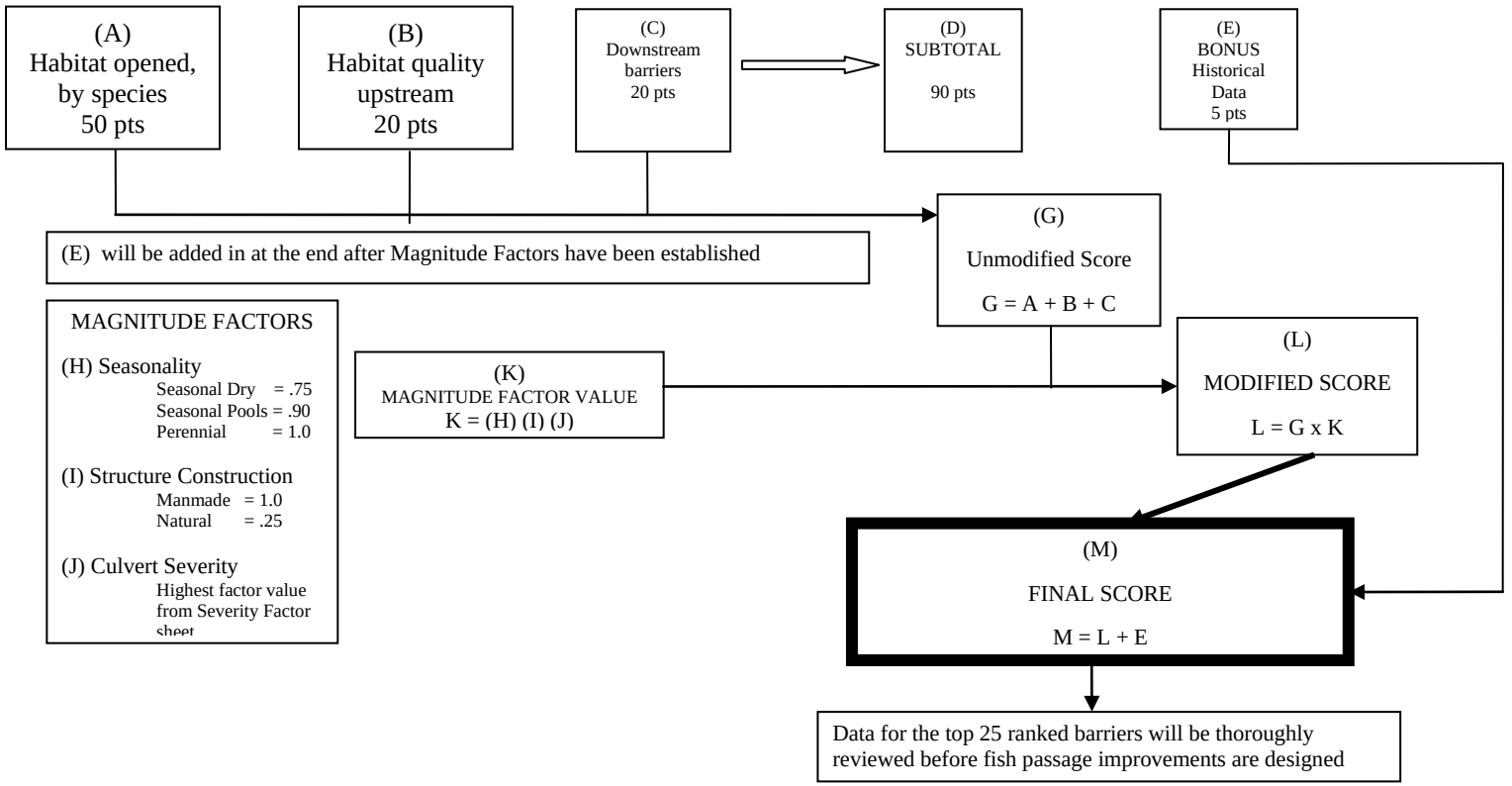


Chart 1: Potential Fish Barrier Scoring Flowchart

Chapter 3: Data Collection and Field Work

DATA COLLECTION

Existing Data Collection

Various agencies including government and private industrial timber companies have been approached for participation in the project. Data from these organizations was collected, where available, in order to assess the current conditions for fish access throughout the basin. The majority of the data that was available was on culverts; however, there was limited data on dams, bridges, natural structures, etc. Existing data that was acquired was put into a common data set in a single location and attempts were made to standardize the data where possible (see Appendix F: Raw Existing Data). Once all of the available existing data was gathered, a standardized data sheet was created to ensure that all possible criteria were addressed (see Appendix B: Potential Fish Barrier Scoring Matrix). The collection of existing data is an ongoing process that is continually being updated as new information becomes available. The following is a list of organizations that have contributed data up to this point:

Roseburg District, Bureau of Land Management
Medford District, Bureau of Land Management
Umpqua National Forest
Siuslaw National Forest
Oregon Water Resources Department
Oregon Department of Transportation
Douglas County, Public Works Department
Roseburg Resources Company
Oregon Department of Fish and Wildlife
Oregon Department of Forestry

Field Data Collection

Upon collecting the existing data from the various organizations and completing the 5th Objective, a 2-person field crew was hired in April 2003 to begin collecting additional data on the known sites in order to fill in any data gaps. Maps, with the existing data, were made in order to better locate the sites and make a hardcopy reference sheet for each watershed. The collected data was stored in a common database for ranking. The focus was on culverts located on fish bearing streams, in “High Priority” watersheds, with diameters of 24” or greater. The crew used a Trimble Geo XT for data collection and location information. Culvert and stream gradients were measured with an Abney level on a monopod. All other physical measurements were taken with a 100’ tape and an 8’ measuring rod. (See Appendix D: Potential Fish Barrier Evaluation Form). A sampling protocol was established to provide a standardized method of data collection and act as a set of definitions for the field measurements that were taken (Appendix E: Potential Fish Barrier Evaluation Form Protocol).

Chapter 4: Discussion

Umpqua Basin Fish Access Team

UBFAT was organized in November of 2001. The group began by identifying its goals and objectives in order to better understand the scope of the project. The overall goal of the group was to better identify potential fish barriers within the Umpqua Basin. The initial effort of the group was a letter/questionnaire that was sent out to local landowners and resource managers. The intent of the letter was twofold. First, it was the initial introduction of UBFAT and its purpose to the public. Secondly, the letter included a questionnaire that inquired about culverts and, if so, was there was any data associated with those culverts. It also asked if the landowner was interested in participating in the UBFAT effort. The returned questionnaires established an initial contact list of landowners and resource managers who either had information and/or wanted to participate in the project in some capacity. Through local participation and continued meetings, the UBFAT committee grew and began establishing project protocols and the scoring matrix. UBFAT, through Douglas Soil and Water Conservation District (DSWCD), received funding for the basin wide project in July of 2002. In August of 2002 DSWCD hired a project coordinator and work began on further defining the project and collecting existing data.

Existing Data

The initial effort in data collection was to gather as much existing data from various sources throughout the basin. Existing data was first collected from the local public resource management agencies. Once data was collected from the larger public landowners, an effort was made to collect any data that existed on private lands. This effort primarily focused on culverts owned by private timber companies. Data was collected from the Roseburg and Medford BLM Districts, the Umpqua and Siuslaw National Forests, Oregon Department of Transportation (ODOT), Oregon Department of Forestry (ODF), Oregon Department of Fish and Wildlife (ODFW), Douglas County, and Roseburg Resources Company. Along with the existing data on potential fish barriers, additional mapping data and information was collected to aid in making GIS maps. The goal was to collect all existing data from the various agencies and put it all into a common database. The database would then be formulated to score each individual culvert and rank it according the scoring matrix and magnitude factors. It was found that all of the collected data was in different formats and incomplete for the purposes of the project. When the data was put into a common database, large gaps in information were present (see Appendix F: Raw Data Existing). The gaps in the database made it impossible to score and rank out individual culverts. The need for additional data was identified in order to achieve the goals of the project. GIS maps were created and organized by 5th fields in order to better organize future efforts in data collection.

Field Data

In late April of 2003 a two person crew was hired to begin gathering data in order to fill in the information gaps that were identified. Data forms and collection protocols were developed to standardize the data collection. A Trimble™ Geo XT was equipped with a data dictionary, which mirrored the field data sheet, and data collection began on 21 April, 2003. Through the end of July the crew collected data on 442 culverts (see Appendix G: Raw Data: Surveyed Culverts). A complete copy of the raw data that has been collected can be found in Appendix G: Raw Data: Surveyed Culverts. The only problems that were identified during data collection were access to private property and difficulties locating some culverts. In some cases there were questions on rights of way and access to culverts that bordered private property. Access issues were worked out on an individual basis. In general, access issues will be on going, but should be of little significance in the long run. There were some instances where the field crew had difficulty locating mapped culverts. It was determined that the maps provide a good general description of the culvert locations, but were often lacking in significant detail. In the instances when there was difficulty locating a culvert, the field crew used existing data and a process of elimination (along with the maps) to locate the culvert.

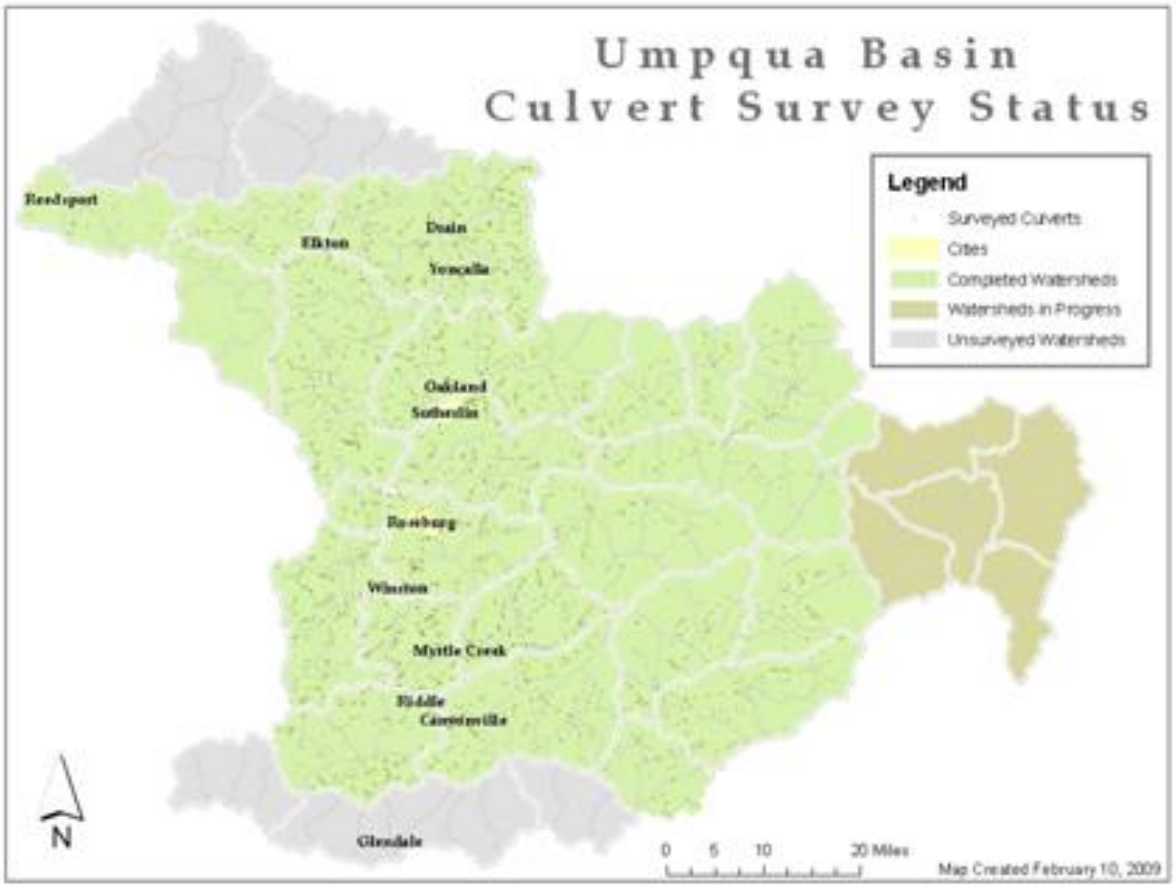
Current Status of Project

To date, surveys and scoring have been completed in the Rock Creek, Canton Creek, Middle North Umpqua, Steamboat, Upper Umpqua and Middle South Umpqua – Rice Creek watersheds. The Myrtle Creek watershed is currently in progress and nearing completion. As of March 2009 a total of 2,346 potential barriers have been surveyed in 23 of the 33 watersheds within the Umpqua Basin (see Map 2).Thus far, letters requesting access to inventory potential fish barriers on private land have been sent to approximately 500 landowners.

In March 2006, a protocol for data management was developed in order to make the data collected over the past four seasons consistent for the purpose of scoring. Changes to the data dictionary, such as new fields being added, and removing those that were unnecessary, had to be updated throughout the entire data set. Minimal coordination between field seasons led a few to duplicate culvert surveys, as well as several duplicated identification numbers. A method for keeping track of this data is now included in the data management protocol.

Initial efforts have been made to portray non-proprietary data on the Umpqua Basin Explorer website. The site is an interactive tool that allows users to look up and view natural resource data for the entire Umpqua Basin. Fish passage data is an important part of natural resource concerns throughout the basin. Landowner name, address, and any other proprietary data will be kept confidential and landowners have the option to choose if potential barrier data will be displayed on the website.

Map 2: Culverts Surveyed Through March 2009



Culvert data as well as the scores assigned by the scoring program are stored in an Access database. Funding is being sought to continue the project through completion in 2010. During the winter months, project efforts will focus on getting all surveyed culverts scored and ranked by watershed. Efforts will then focus on preparing for the upcoming field season and refining the survey protocol.

APPENDIX A

Oregon Fish Passage Statutes

ORS 498.351 Fishway required for artificial obstruction across body of water.

1. Except as otherwise provided by law, no person shall construct, operate or maintain any dam or artificial obstruction across any body of water in this state in which game fish exist unless the person provides a fishway in such location and of such design as the State Fish and Wildlife Commission determines will provide adequate upstream and downstream passage for fish at the dam or obstruction.
2. If the State Fish and Wildlife Commission determines that a fishway required by subsection (1) of this section does not provide adequate passage for fish, the State Fish and Wildlife Commission shall so notify the person who constructed or who operates or maintains the dam or obstruction. The notice shall also specify the manner in which the fishway is inadequate, and shall require the person who constructed or who operates or maintains the dam or obstruction to make appropriate alterations, specifying a reasonable time for the completion thereof.
3. A person required to alter a fishway pursuant to subsection (2) of this section may file with the Water Resources Commission a protest against the alteration requirements on the grounds that such alterations are not in the public interest. A person who protests pursuant to this subsection must file the protest with the Water Resources Commission not later than the 10th day after the date of the notice of alteration requirements from the State Fish and Wildlife Commission.
4. Within a reasonable time after receiving a protest, the Water Resources Commission shall give notice to the protestant and the State Fish and Wildlife Commission and hold a hearing to determine whether the fishway alterations are in the public interest. In making the determination, the Water Resources Commission shall approve, disapprove or approve with modifications the fishway alterations required by the State Fish and Wildlife Commission. In making the determination, the Water Resources Commission shall consider the state water resources policy and the considerations set forth in ORS 536.310.
5. If the person required by this section to make alterations to a fishway fails to make the alterations in the manner and within the time required by the State Fish and Wildlife Commission or the Water Resources Commission, as the case may be, the State Fish and Wildlife Commission may remove the dam or obstruction, or any parts thereof.
6. No person who has constructed or who operates or maintains a dam or artificial obstruction for which a fishway is required by this section shall fail to keep the fishway free from obstruction to the passage of fish. However, no prosecution for violation of this subsection shall be commenced unless the violation continues after the State Fish and Wildlife Commission has given written notice of the violation to the person who is to be prosecuted. Every day of violation of this subsection after the date written notice was given to

the person to be prosecuted constitutes a separate offense. (Formerly 498.268)

605. **Fishways required over artificial obstructions; approval by director; failure to complete fishway.**

1. Except as otherwise provided in ORS 498.351 or 509.640 or 509.645 or the state water resources policy formulated under ORS 536.295 to 536.350, it is unlawful for any person, municipal corporation, political subdivision or governmental agency to construct or maintain any dam or artificial obstruction across any stream in this state frequented by anadromous or food fish without providing a passageway for such fish over the dam or artificial obstruction as near the main channel as practicable.
2. The director shall examine, from time to time, all dams and artificial obstructions in all waters of this state frequented by anadromous or food fish. If in the opinion of the director there is not a free passage for such fish over any dam or artificial obstruction, and except as otherwise provided in ORS 509.640, the director may notify the owner or occupant thereof to provide free passage within a reasonable time with a durable and efficient fishway, of such form and capacity and in such location as shall be determined by the director. Except as otherwise provided in ORS 509.645, no owner or occupant of such dam or artificial obstruction shall fail to complete such fishway to the satisfaction of the director within the time specified.
3. Any person, municipal corporation, political subdivision or governmental agency shall, prior to construction of any dam or artificial obstruction in any waters of this state, obtain determination from the director as to the need or lack of need for passage for anadromous or food fish. If the director determines that a fish passage facility is needed, approval of the proposed plans and specifications for such facility must be obtained from the director prior to construction of the dam or artificial obstruction. (Amended by 1955 c.707 s.49; 1963 c.178 s.1; 1965 c.570 s.131; 1973 c.723 s.123)

Oregon Wildlife and Commercial Fishing Codes. Includes amendments and new statutes passed by The Oregon Legislature through the 1997 session.

APPENDIX B

Potential Fish Barrier Scoring Matrix

1. How many miles of additional habitat will be opened up for each salmonid species* as a result of the project? * Salmonid species include cutthroat trout, steelhead,

Coho and Chinook salmon. Since Coho are listed as "threatened", any project involving Coho will receive twice as many points.

	Coho	Cutthroat	Steelhead	Chinook
0.1 – 0.5 miles =	2pts	1 pts	1 pts	1 pts
>0.5 – 1.0 miles =	4 pts	2 pts	2 pts	2 pts
>1.0 – 1.5 miles =	6 pts	3 pts	3 pts	3 pts
>1.5 – 2.0 miles =	8 pts	4 pts	4 pts	4 pts
>2.0 – 2.5 miles =	12 pts	6 pts	6 pts	6 pts
>2.5 – 3.0 miles =	16 pts	8 pts	8 pts	8 pts
> 3.0 miles =	20 pts	10 pts	10 pts	10 pts

2. Habitat quality of the area upstream of project site until next barrier or end of habitat (based on best available data).

Poor habitat quality	= 5 pts
Fair habitat conditions	= 10 pts
Good habitat conditions	= 20 pts

3. Fifth Field Bradbury Process Rating.

Project is in a Low priority 5th field	=	3 points
Project is in a Medium priority 5th field	=	7 points
Project is in a High priority 5th field	=	10 points

4. Are there any barriers below the project site (barrier in question) that we can do something about?

If there are no barriers below the project site	= 20 pts
If there is one fixable barrier below the project site	= 15 pts
If there are two fixable barriers below the project site	= 10 pts
If there are three fixable barriers below the project site	= (0) pts
If there are four fixable barriers below the project site	= (-5) pts

5. Potential extra credit.

First hand historical data showing that there were fish above project site = 5 pts
(i.e.: documented landowner/biological data)

APPENDIX C

CULVERT SEVERITY FACTORS

****Select highest severity factor****

FACTOR VALUE

1. What is the outfall height at the current crossing?

Six inches or less =		Not a barrier to any species/age class	0.0
>0.5	=	Barrier to all juvenile species	0.5
>2.5	=	Barrier to adult Cutthroat	0.6
>7 feet	=	Barrier to adult Cutthroat and Coho	0.8
>8 feet	=	Barrier to adult Cutthroat, Coho and Chinook	0.9
> 11 feet	=	Barrier to all juvenile/adult species	1.0

2. What outfall height to pool depth ratio (using 1:1.25 as the standard):

If outfall/pool depth ≤ (0.8) and outfall is < 6”	= Not a barrier	0.0
If outfall/pool depth ≤ (0.8) and outfall is > 6”	= Not an adult barrier	0.5
If outfall/pool depth > (0.8)	= Barrier to all species	1.0

3. Velocity / Gradient / Length

Culvert Length ≥ 200'		Barrier to All
Culvert Length 100' -200'		
	Natural Structure Bottom	Manmade Structure Bottom
0.0-0.5%	OK	OK
0.6-2.0%	OK	Barrier to All
2.1-4.0%	Barrier to All	Barrier to All
>4.0%	Barrier to All	Barrier to All
Culvert Length < 100’		
	Natural Structure Bottom	Manmade Structure Bottom
0.0-0.5%	OK	OK
0.6-2.0%	OK	Barrier to Cutthroat, all Juveniles
2.1-4.0%	Barrier to Cutthroat, all Juveniles	Barrier to Cutthroat, Coho, Chinook, all Juveniles
>4.0%	Barrier to Cutthroat, Coho, Chinook, all Juveniles	Barrier to All

OK	=	0.0
Barrier to Cutthroat, all Juveniles	=	0.5
Barrier to Cutthroat, Coho, Chinook, all Juveniles	=	0.8
Barrier to all	=	1.0

APPENDIX D

Potential Fish Barrier Evaluation Form

***It is preferred that all measurements be taken during low stream flow**

Owner: _____

Location: _____

Northing: _____

Easting: _____

Culvert Shape: _____ Culvert Material: _____Multiple Culverts: _____

Height (B1): _____ft. Width (B2): _____ft. Length (A): _____ft.

Culvert Slope (C): _____% Outlet Height: _____ft.

Outlet Pool Depth (E1): _____ft. Pool Width (E2): _____ft. Pool Length (E3): _____ft.

Stream Gradient (F):_____%

Is there any record of historical salmonid use above the site?
(If yes, give approximate observance dates, fish numbers, and species, if known).

What is the quality of stream habitat above the site? (Circle one):

Poor = >4% u.s. gradient, <3 ft wide, <25% gravel substrate, <50% shade
Fair = <4% u.s. gradient, 3-5 ft wide, 25%-50% gravel substrate, 50%-75% shade
Good = <2% u.s. gradient, >5 ft wide, >50% gravel substrate, >75% shade

Fifth Field Bradbury Process Rating for the PFB:

Low **Medium** **High**

What is the system? : **Seasonal Dry** **Seasonal Pool** **Perennial**

What is the structure build? : **Natural** **Manmade**

What is the structure bottom? : **Natural** **Manmade**

LLID #:_____

River Kilometers (RKM):_____

Additional Comments:

APPENDIX E

Potential Fish Barrier Evaluation Form Protocol

This document is intended to serve as a set of instructions and guidelines for the data forms used for the Fish Barrier Assessment Project at Douglas Soil and Water Conservation District.

PFB Evaluation Form Definitions

Owner: The individual(s) or agency who owns the land that the culvert is on.

Location: The description of the location of the culvert, i.e.: Road, Milepost, Township, Range, and Section, etc. The intent is to record a written description of were the culvert is located with reference to the surrounding roads and landmarks.

GPS Coordinates: The GPS will collect the data in Latitude and Longitude. The units will be changed to Easting and Northing UTM 10 grid coordinates; NAD83 at a later date.

Culvert Length (A): The length of the culvert from its upstream opening to its downstream opening. Measurement is to be taken in feet and on the bottom of the culvert if possible.

Culvert Height (B1): The vertical measurement of the culvert opening. Measurement is to be taken in feet.

Culvert Width (B2): The horizontal measurement of the culvert opening. Measurement is to be taken in feet and at the mid-section of the culvert.

Culvert Shape: RND = Round, BOX = Square or Rectangle, OBA = Open Bottom Arch PAR = Pipe Arch.

Culvert Material: CMP = Crushed metal pipe, CON = Concrete, WOD = Wood, PLA = Plastic.

Culvert Slope (C): The rise or drop, of the culvert, from horizontal. The measurement is taken as a % slope. The measurement is taken with an Abney Level. From upstream end of the culvert, the level will be placed atop a measuring stick and leveled on a mark (at the same height) on another measuring stick, at the downstream end of the culvert.

Stream Gradient (F): Using the Abney Level, in the same manner described above, a % slope for the stream will be taken at the UPSTREAM side of the culvert. If property access is an issue for this reading, an alternate method will be used (GIS data). The Abney Level is placed on top of the measuring stick, at the upstream end of the culvert, and is leveled on the mark of the other measuring stick located at 100ft upstream. If property access is an issue the level will be used and leveled on a point upstream at approximately same height.

Outlet Height (D): The vertical distance measured from the bottom of the culvert to the water surface on the downstream pool. This measurement is taken in feet on the downstream side of the culvert.

Outlet Pool Depth (E1): This measurement is taken at the middle of the pool on the downstream side of the culvert. The measurement is taken in feet with a measuring rod.

Pool Width (E2): This measurement is taken with a 100' tape. The measure is taken at the widest part of the pool across the surface of the water and recorded in feet.

Pool Length (E3): This measurement is taken with a 100' tape. The measurement is taken from the downstream end of the culvert to the downstream end of the pool across the surface of the water and recorded in feet.

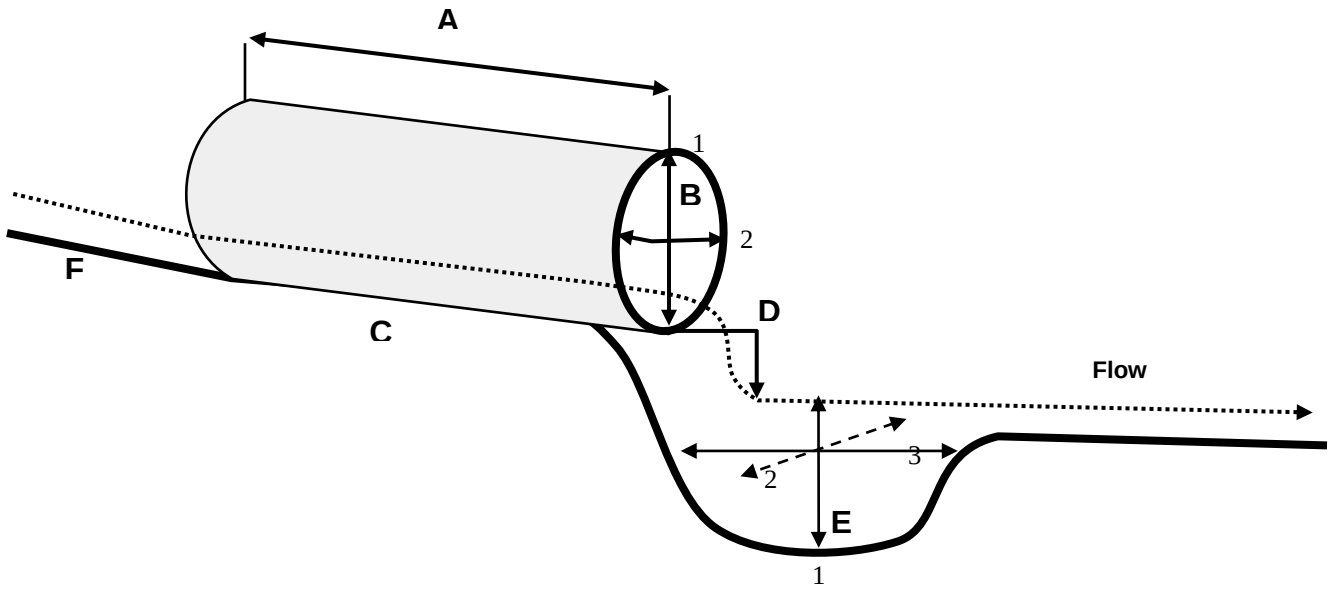


Diagram 1: Culvert measurement diagram

Habitat Quality Upstream:

Poor = >4% u.s. gradient, <3 ft wide, <25% gravel substrate, <50% shade

Fair = <4% u.s. gradient, 3-5 ft wide, 25%-50% gravel substrate, 50%-75% shade

Good = <2% u.s. gradient, >5 ft wide, >50% gravel substrate, >75% shade

Bradbury Rating:

As defined by “Handbook for Prioritizing Watershed Protection and Restoration to aid Recovery of Native Salmon”, Senator Bill Bradbury 1995.

System Seasonality:

Seasonal Dry - System becomes completely dry during summer months with no pools being formed for fish to over-summer.

Seasonal Pool - System becomes dry during the summer months, but deep pools retain water, allowing fish to over-summer.

Perennial- System has water flowing year around.

Structure Build:

Natural- PFB is direct result of natural causes and/or not constructed by man.

Manmade**-** PFB is a result of human construction.

Structure Bottom:

Natural- PFB structure has natural streambed/material as its bottom. This included culverts with rock/gravel placed in bottom.

Manmade**-** PFB bottom is of manmade materials (of human construction).

APPENDIX F

Rock Creek HUC 5th Data Sample

ID__	SURV	DATE_	OWNEF	LOCATION	SHAPE	MATE	M	HEIGH	WIDTH	LENGTH	CULVERT_	OUTLET_H	POOL_DEF	POOL_WID	POOL_LEI	STREAM_G	HISTO	US_HA	BRA	SEASONALIT	ST_BUILI	ST_BTM	DISPLAY	LLID	RKM	COMMENTS
	UPPER																									
11001002	er	8/10/200	blm/ros	blm 25-2-11	BRIDGE	CON	1	14.0	90.0	14.0	0.0	0.0	1.0	35.0	100.0	1.0	YES	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	14.460	coho presen
11001003	er	8/10/200	blm	blm 26-3-1	BRIDGE	CON	1	25.0	120.0	30.0	0.0	0.0	0.5	50.0	100.0	1.0	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	16.530	
11001004	er	8/10/200	blm	blm 25-2-2.0	BRIDGE	CON	1	30.0	100.0	15.0	0.0	0.0	0.5	40.0	60.0	1.0	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	16.650	
11001005	er	8/10/200	blm	blm 25-2-2.0	ARC	CMP	1	7.0	10.0	70.0	2.0	1.0	1.5	10.0	15.0	9.0	YES	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	1.970	ctt present
11001008	er	8/10/200	rfp	cobble crk 25-2-2.1	RND	CMP	1	10.0	10.0	100.0	2.0	3.0	3.5	24.5	21.0	3.0	UNK	FAIR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.560	
11001013	er	8/10/200	blm/rfp	26-3-1 ne fork rock	BRIDGE	CON	1	20.0	120.0	25.0	0.0	0.0	1.5	22.0	25.0	3.0	YES	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	2.200	fish presen
11001014	er	8/10/200	rfp	rock crk	BRIDGE	CMP	1	25.0	60.0	14.0	0.0	0.0	0.5	45.0	30.0	2.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	20.450	
11001021	er	8/10/200	blm	ne fork rock crk	BRIDGE	CON	1	20.0	120.0	15.0	0.0	0.0	0.5	60.0	100.0	2.5	YES	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.040	fish presen
11001022	er	8/12/200	rfp	zag crk 24-2-25.1	RND	CMP	1	9.0	8.0	55.0	1.0	1.5	5.0	25.0	25.0	1.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.130	
11001023	er	8/12/200	rfp	zig zag crk 24-2-2	RND	CMP	1	10.0	9.0	60.0	4.0	1.5	4.0	20.0	35.0	2.5	UNK	FAIR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.100	
	EAST																									
11002001	er	8/17/200	blm/rfp	east fork rockcrk 25-	BRIDGE	CON	1	16.5	90.0	15.0	0.0	0.0	1.0	25.0	75.0	1.5	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	3.600	
11002002	er	8/17/200	blm/rfp	25-2-11 mace crk	BRIDGE	CON	1	8.5	20.5	50.0	0.0	0.0	0.5	15.0	0.0	4.5	UNK	POOR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.080	no pool-cascade roc
11002003	er	8/17/200	blm/rfp	east fork rock crk 25	BOX	CON	1	7.0	23.0	80.0	0.0	0.0	1.0	15.0	40.0	3.0	UNK	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	4.380	
11002004	er	8/17/200	blm/sen	25-2-11	ARC	CMP	1	5.0	9.0	60.0	2.0	0.0	0.0	0.0	0.0	5.0	UNK	POOR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.060	no pool
11002007	er	8/17/200	blm	25-2-19	ARC	CMP	1	12.0	19.0	70.0	0.0	0.0	1.0	20.0	35.0	2.5	YES	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.530	coho present
11002008	er	8/17/200	blm	25-2-11 e frk rock cr	ARC	CMP	1	6.0	9.0	55.0	3.0	0.0	0.0	5.0	8.0	6.0	UNK	POOR	HIGH	SEASONAL P(	MANMA	NATURA	YES	##########	7.040	no water-subsurface
11002009	er/dm	8/17/200	blm/sen	25-2-20.1	RND	CMP	1	5.0	5.0	60.0	3.0	0.0	0.0	0.0	0.0	10.0	UNK	POOR	HIGH	SEASONAL P(	MANMA	MANMA	YES	##########	0.060	gradient barrier
11002010	er	8/17/200	blm	25-2-18 nf ef rock cr	BRIDGE	CON	1	13.0	80.0	15.0	0.0	0.0	0.5	60.0	20.0	2.0	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	1.210	coho present
11002011	er	8/17/200	blm	surprise crk 25-2-18	ARC	CMP	1	9.0	14.0	65.0	2.0	1.0	4.5	20.0	25.0	2.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.190	
11002017	er	8/17/200	blm	nf ef rockk crk	RND	CMP	1	7.0	7.0	65.0	2.0	1.5	3.5	16.0	23.0	2.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	5.690	
11002018	er	8/10/200	blm	blm 25-2-11	BRIDGE	CON	1	22.0	100.0	17.0	0.0	0.0	1.0	40.0	100.0	0.5	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	1.320	bridge
	LOWER																									
11003001	er/er	7/20/200	blm	macommaas crk / cnty	BRIDGE	CON	1	6.0	40.0	25.0	1.0	0.0	2.0	10.0	25.0	1.0	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.220	bridge
11003002	er/et	7/20/200	blm	kelly crk / cnty rd	BRIDGE	CON	1	6.0	40.0	25.0	1.0	0.0	0.0	0.0	0.0	1.0	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.230	bridge-*d/s* riffle
11003003	er/et	7/20/200	blm	macomas crk-rock crk	RND	CMP	1	10.0	7.0	130.0	3.5	5.0	2.5	20.0	30.0	2.5	YES	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.680	*d/s* pool *w/* boulders
11003004	er/et	7/20/200	blm/cnt	kelly crk/rock crk r	RND	CMP	1	10.0	7.0	125.0	3.0	4.5	3.5	45.0	30.0	1.5	YES	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	1.100	waterfall 150' *u/s*
11003005	er/et	7/20/200	blm	blm rd 25-3-25	RND	CMP	1	4.5	4.5	75.0	3.0	2.0	4.0	18.0	17.0	2.5	YES	FAIR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.690	fish presen
11003006	er/et	7/20/200	blm	blm rd 25-3-36	RND	CMP	1	2.0	2.0	65.0	3.5	3.0	3.0	4.5	10.0	3.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.190	poor fish habitat
11003007	er/et	7/20/200	blm	blm rd 25-3-36	RND	CMP	1	4.0	4.0	80.0	8.5	2.0	1.5	9.5	12.0	6.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.330	culv fail in middle-bar
11003008	er/et	7/20/200	blm	blm 25-3-36	RND	CMP	1	3.0	3.0	80.0	11.0	0.0	1.5	6.0	9.0	12.0	UNK	POOR	HIGH	SEASONAL P(	MANMA	MANMA	YES	##########	0.500	slope barrier
11003009	er	7/26/200	blm/ros	blm rd 25-2-30.1	RND	CMP	1	4.0	4.0	60.0	7.0	2.0	0.3	4.0	6.0	8.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	1.390	*u/s* total barrier
11003010	er	7/26/200	blm	25-2-29	RND	CMP	1	6.0	6.0	60.0	2.5	0.8	2.5	15.0	18.0	2.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	2.950	
11003011	er	7/27/200	blm	25-2-7 @ pump ch	RND	CMP	1	3.0	3.0	50.0	2.0	2.0	0.0	0.0	0.0	10.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	4.530	
11003012	er	7/27/200	blm	25-2-29	RND	CMP	1	5.0	5.0	60.0	5.0	7.0	0.0	0.0	0.0	8.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.140	total barrier
11003018	er/et	7/20/200	pvt/blm	rock crk rd	RND	CMP	1	8.0	8.0	85.0	2.0	2.0	3.0	22.0	22.0	4.0	UNK	FAIR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.620	
11003020	at	2/17/200	kenneth	25-2-29.3 trib of roc	RND	CMP	1	7.0	7.0	55.0	1.0	0.0	5.0	30.0	30.0	1.5	YES	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.200	
11003021	er/et	7/20/200	blm	25-2-33.4	RND	CMP	1	4.0	4.0	100.0	5.0	1.0	2.5	15.0	16.0	10.0	UNK	FAIR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.420	*u/s* end completely b
11003022	er/et	7/20/200	rfp/blm	25-2-20.1/28.1	RND	CMP	2	4.0	4.0	35.0	0.5	2.5	2.2	16.0	22.0	0.5	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.570	east culv@ site
11003023	er	7/26/200	blm/ros	rock rd/25-2-20	ARC	CMP	1	7.0	9.0	60.0	0.0	0.0	0.8	14.0	17.0	2.0	YES	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.150	culv *w/* substrate-fish
11003024	er	7/27/200	blm	26-3-1 @ 25-2-21	ARC	CMP	1	7.0	11.0	62.0	0.0	0.0	1.0	12.0	18.0	2.0	YES	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.190	fish present
11003025	er	7/26/200	blm/rfp	26-3-1 @ harrington c	BRIDGE	CON	1	5.5	34.0	12.0	1.0	0.0	0.5	21.0	60.0	1.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.080	
11003026	er	7/27/200	blm	25-2-16 @ 25-2-1	ARC	CMP	1	4.0	11.0	70.0	1.0	0.0	0.5	10.0	25.0	1.5	YES	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	0.200	coho present-pipe cr
11003027	er	7/27/200	blm	25-2-16	ARC	CMP	1	6.5	13.5	70.0	3.0	0.0	0.5	10.0	20.0	4.0	UNK	FAIR	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	1.290	
11003028	er/et	7/20/200	rfp/blm	25-2-20.1/28.1	RND	CMP	2	4.0	4.0	40.0	1.0	1.5	2.5	16.0	16.0	0.5	UNK	GOOD	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.570	west culv @ site-new
11003031	er	7/26/200	rosebor	26-3-16.1 decommision	RND	CMP	1	6.0	6.0	50.0	4.0	1.0	1.0	10.0	16.5	5.0	UNK	POOR	HIGH	PERENNIAL	MANMA	MANMA	YES	##########	0.060	
11003033	er	7/26/200	blm	26-3-1 @ blm maintena	BRIDGE	CON	1	20.0	170.0	16.0	1.0	0.0	2.0	100.0	100.0	1.0	UNK	GOOD	HIGH	PERENNIAL	MANMA	NATURA	YES	##########	3.830	bridge
11003034	er	7/27/200	blm	26-3-1 ds rk cr	ARC	CMP	1	5.0	7.0	55.0	0.5	0.0	0.0	0.0	0.0	2.5	UNK	FAIR	HIGH	SEASONAL DI	MANMA	NATURA	YES	##########	0.770	

APPENDIX G

Date

Dear Douglas County Resident,

Your property has been identified as possibly having a culvert or bridge crossing on a potentially fish-bearing stream. In 2002, local watershed councils, the BLM and other natural resource organizations formed a partnership, the Umpqua Basin Fish Access Team (UBFAT), to inventory fish passage and potential barriers. The goal of the project is to develop an accurate inventory of fish migration barriers in the Umpqua Basin and prioritize them for correction based on barrier magnitude and resource benefit. Over the past five years, data has been collected on more than 1000 culverts throughout the basin, primarily on public land. This data is analyzed and scored by a computer model that determines fish accessibility based on the physical characteristics of the culvert. The end result is a score assigned to each culvert with reference to fish passage and the amount/quality of potential fish habitat upstream. This scoring process is non-regulatory and will not mandate action, but rather it is a tool that will allow landowners and resource managers to make better decisions with funding priorities.

At some point this data may be made available on a public natural resource website called the Umpqua Basin Explorer. Ownership data will not be provided, rather, culvert specific information will be portrayed on an interactive map. This website is being designed by the Institute of Natural Resources and Oregon State University Libraries and is intended to be used as a management and an educational tool. The data is collected and managed by DSWCD, but belongs to the UBFAT partnership and is accessible to all members of the partnership and the landowners. Great care is taken to prevent the distribution of any proprietary data that is not common public information.

At your convenience, the District would greatly appreciate a one-time access to your property to inventory your culvert(s). Allowing the District to survey your culvert will in no way require or obligate you to act, but may assist with obtaining restoration funds in the future. By signing and checking the appropriate boxes at the bottom you can agree to allow access to your property for survey purposes only and, if you choose, to authorize the data to be used as a management and educational tool. Ann Kercher, a DSWCD Staff Member will be contacting you to coordinate a time to survey your culvert(s). Please contact me if you have any questions or concerns regarding the project and the data that is collected. Thank you for your time, and I look forward to hearing from you.

Best regards,

Eric Riley
Project Manager
Douglas Soil and Water Conservation District
541/957-5061
eric.riley@oacd.org

Please return this form to:

Douglas Soil and Water Conservation District
2741 W Harvard Ave
Roseburg, OR 97470

Landowner Name: _____

Mailing Address: _____

Property Address: _____

Phone: _____

Best Time to Reach You: _____

Landowner Signature: _____

Access to Survey Culvert Granted ☐

Permission to Display Data ☐

REFERENCES