

Project Completion Report

Luckiamute Watershed Rapid Bio-Assessment

208-3075

1. Project Description

a. Background

An Assessment has been completed for the Luckiamute River watershed (Luckiamute / Ash Creek / American Bottom Watershed Assessment). The 2004 Assessment recommended “that LWC develop a diverse suite of restoration strategies and that they work with fisheries managers to develop the scientific underpinnings of the factors that truly limit salmonid populations” (page 285). This document did not provide quantitative assessments of current juvenile salmonid abundance or distribution. Fish distribution data exists in an unconsolidated inventory of presence / absence in the StreamNet database that utilizes historical and anecdotal information from local ODFW district staff. StreamNet attempts to be comprehensive in terms of distribution, but many of the distributions are unverified and provide no indication of shifts in summer rearing abundance within that distribution. Distributions do not indicate the location of key anchor habitats that provide the greatest production or production potential within that distribution, nor do they correlate that distribution with temperature profiles or provide any indication of temperature-dependent migration behavior and document migration impediments within that historical distribution. Watershed assessment is a fundamental first step for developing an action plan strategy that is comprehensive and successful. Many Watershed Assessments result in the identification of significant data gaps that need to be filled before sound decision making and prioritization can become a reality. As a group of partners gathered to write an Action Plan for the restoration and enhancement of the basins that form the Luckiamute watershed, we became aware of our lack of contemporary information on the abundance and distribution of the juvenile life history stages of the salmonids that are the ‘canaries’ of our watersheds. Our desire is to gather as much current information as possible on the status and location of these juveniles so that our process of determining limiting factors and locating restoration strategies will be well informed and capable of utilizing limited

restoration capital in a manner that is biologically and economically effective.

b. Description of work

All the likely or potential salmonid stream reaches in the Luckiamute River watershed were surveyed using the Rapid Bio-Assessment (RBA) protocol. RBA protocols provide detailed information on spatial distribution and relative abundance of salmonid juveniles in summer. Surveyors walked up each stream and snorkeled through at least 20% of the pools, identifying and counting all salmonids observed, by species and age class. The RBA protocol defines how salmonid distribution changes as you proceed up each tributary. This facilitated the location of key rearing habitats and production hotspots.

The proposed assessment tasks were:

Landowner Contacts

Much of the survey area occurred on private land, and the property owners were contacted for permission to access each property. This task included research in the Polk and Benton County tax assessors' databases identifying landowners in the proposed survey reaches and contacting landowners via phone and mail. LWC led this task with assistance from Western Oregon University students.

RBA Surveys

All twelve 6th field sub-watersheds of the Luckiamute River watershed were surveyed using the RBA protocol. The survey continued from the mouth of each stream and tributary to a point where at least two consecutive surveyed units (a span of 10 pools) contained no juvenile salmonids. In some cases surveyor discretion was utilized to continue the survey if the channel morphology or habitat conditions indicated that continued potential existed upstream. The surveyor collected multiple attributes at each inventoried unit including pool metrics to calculate surface area, habitat complexity, visibility ratings, calibration factors for measuring distance traveled between units, location and viability of fish passage structures. Temperature and condition comments were also recorded when relevant (tributary junctions, culvert crossings, significant land use shifts, etc.). Most surveyed reaches were completed by a single surveyor. However, in larger mainstem corridors the protocol utilized two or three surveyors simultaneously conducting visual inventories. Bio-Surveys conducted all survey.

Data Analysis

After all surveys were completed, field data was entered into an Access database. Bio-Surveys also converted the Access data into a Microsoft Excel Pivot table that is user friendly and allows easy manipulation and presentation of the data by species, year, and stream or tributary. Bio-Surveys conducted all data analysis.

Final Report

Raw and analyzed data were assembled into a final report by Bio-Surveys. The report organizes the results of the inventory by 6th fields. The report is concerned with utilizing the distribution and abundance data to ferret out the biotic and morphological relationships that are important to fish production. The report will be distributed to interested landowners and agencies by LWC, as appropriate.

Final Presentation

Bio-Surveys described methods, results, and facilitated a discussion in a formal setting with the public. This meeting was organized and hosted by LWC.

RBA results will be used in four primary ways to further our goal of improving stream habitats in Luckiamute River sub-watersheds.

a) The RBA will give a detailed picture of salmonid distribution within and among basins. Results will be used to identify “hot spots” with relatively high rearing densities, poorly seeded areas, and extirpated local populations.

b) Streams will be identified with high steelhead potential, but less than desired seeding rates as high priorities for restoration. These might be locations where projects to address limiting factors will yield rapid and substantial increases in production. Distribution data will also be used for prioritizing restoration strategies in reaches immediately upstream and downstream of steelhead density “hot spots.” Streams or stream reaches will be ranked as a result of this survey effort for the development of a prioritized LWC Action Plan for restoration.

c) Data will be used to identify streams with both high potential and high seeding rates as top priorities for conservation. These are locations where the maintenance of current conditions is considered more important than the habitat improvement projects.

d) Data will be used to assess the effects of restoration projects on fish populations. For example, high densities of juvenile Coho have

been detected in coastal Oregon streams concentrated around artificial logjams, and higher overall densities have been documented within a project reach rather than in the reaches upstream and downstream. The data collected within the proposed inventory will function as baseline pre-project monitoring data that will eventually be compared to similar post-project inventories.

In addition, the survey data may be used by ODFW in planning their restoration priorities and management activities. ODFW staff biologists will also use the data to identify and design restoration projects. The RBA database is routinely consulted by other ODFW district offices for prioritizing and designing restoration projects. The data have also informed ODFW decision making on supplementation programs. Industrial timber companies may use the data in planning and implementing stream enhancement projects. One company, Boise Cascade (now Forest Capital Partners LLC), has even funded RBA surveys on their lands in the Luckiamute to help them prioritize restoration efforts in that area.

c. Proposal changes

No changes were made to the original proposal.

d. Public awareness activities

The outreach component of this project provided an opportunity to communicate via letters and/or telephone calls with over 500 landowners, which in itself was a tremendously successful public awareness and educational experience. The project generated a great deal of media coverage and was written up prior to the survey. The preliminary results were publicized in approximately 12 articles in four newspapers and three newsletters (examples attached).

e. Lessons learned

The primary lesson learned was that landowner outreach for a project of this magnitude required more time and a much greater level of effort than was anticipated when the grant proposal was written. We engaged approximately 30 paid and volunteer workers to make the contacts necessary to begin the work, delaying the initiation of the survey.

f. Recommendations

In light of the project's cost and the need for similar surveys in other basins statewide, we scaled this request to inventory only a single cohort. The 2008 inventory provided a single-year/single cohort

portrayal of fish distribution in all Luckiamute streams. Salmonid life histories include several overlapping cohorts, and to develop a complete picture of distribution and abundance it is desirable to evaluate the strength and distribution pattern of each of these cohorts. Monitoring funds have now been secured for the completion of the inventory of the remaining three cohorts from OWEB and BLM. It is recommended that funding for TBA surveys in other watersheds assume a four-year cycle of inventories at the outset.

2. Attachments

The final report, an Access database, and an Excel file containing pivot tables are enclosed with this report on a CD. The newspaper articles mentioned above are attached as hard copy.

3. Accounting of funding

See attached Match Form for Final Report.

4. Lobbying

See attached Federal Lobbying and Litigation Certificate.