

Final Report to USFWS for Cooperative Agreement Grant 13420-2-J243

1. General Information

Cooperator: Clackamas County Service District #1
Title: Assessment of Habitat Quality and Fish Distribution in Urban Streams of Clackamas County
Cooperative Agreement Number: 13420-2-J243
Date: October 27, 2003
Project Time Period: April, 2002 to October, 2003

2. Project Description:

In urban Clackamas County, the service districts implement Rules and Regulations on new development and redevelopments that set requirements for design and engineering of stormwater detention facilities, buffer setbacks, and erosion control. The rules are reviewed periodically to determine whether they are set appropriately to protect water quality in the streams that receive the stormwater. When data exists to justify changes of the rules to protect water quality, then the changes are more broadly accepted by the community.

Biological data that indicates areas for conservation or restoration assist county planners to implement the rules. For example, in an area where the habitat and water quality data indicate excellent conditions, a development project on land adjacent to that area would need to reflect protective measures for the high quality natural resource. A buffer would be required for all streamside zones, and where excellent habitat or biological conditions exist (which we know because of this data), variances or exceptions to the development requirements would not be granted because of the need to conserve that resource to the fullest extent possible.

We also use the data that will come from this survey to identify areas for future restoration projects. It will help to develop restoration and conservation plans for each stream, including areas of high invasive plant species populations and areas where instream restoration practices might be warranted. This level of data will provide the permitting agencies with knowledge that background research and data has been collected to justify the restoration projects that will be proposed in the future.

Additionally, the project will evaluate restoration projects that have been installed recently in the stream channel. Very little data exists about restoration practices in urban streams of the Pacific Northwest. Clackamas County Service District #1 has installed several woody debris structures into Mt. Scott Creek, Deer Creek and Phillips Creek within the last four years. Observations have been made regarding changes to the stream morphology as a result of the placement of this material. It would be useful to know if and how fish are utilizing these materials, and if so, to what extent. We are hopeful that the data from this study can provide guidance to other local governments planning instream restoration projects. It should be noted that two of the restoration sites that will be evaluated, Mt. Scott Creek and Deer Creek, were projects initially funded partially by this grant program in 1998 and 1999.

We contracted with the Oregon Department of Fish and Wildlife, to perform this study. ODFW has performed similar studies in other portions of these watersheds, and having the study performed in a manner consistent with those studies is valuable. This way, data can be compared throughout the watershed, across County boundaries and other political boundary lines.

ODFW conducted an assessment of physical habitat at designated sites in CCSD#1 and SWMACC. Sampling sites were selected based on site conditions and previous restoration activity locations. Some streams will have more than one habitat and fish distribution sampling site so that ODFW can evaluate data from different reaches of the streams.

A draft report was completed and reviewed by CCSD#1 staff, and a final report was produced. The final report is attached to this document. This project was very easy to implement, as ODFW did an excellent job of invoicing the Service District on a monthly basis, and performing the duties as specified in our contract. We feel that the goals

that were stated in our grant application, which were to collect physical habitat and fish distribution data -- especially around previously installed restoration projects --so that we can monitor these aquatic communities, was completed successfully, and we look forward to using this data to implement conservation and restoration activities in these watersheds.

3. Actual work tasks implemented and the associated project

schedule.

Sample Site Identification	May, 2002
Survey/Data Collection	September, 2002 to June, 2003
Report Production	June 2003 to October, 2003

4. List of project staff and partners, and their roles.

Because this project was contracted, only Karen Streeter of CCSD#1 was involved with the contract management/administration. ODFW's project manager was Mr. Dave Ward, and Mr. Eric Tinus supervised the implementation of the Scope of Work. Clean Water Services and the Friends of Kellogg/Mt. Scott Creeks watershed helped this project by reviewing the report in its draft form and provided valuable input about the details of the project report. Both agencies are very excited about the study, and continue to be supportive of CCSD#1 collecting this type of monitoring information in these watersheds.

5. Description of the project area and/or study location.

Survey sites were identified in the streams of CCSD#1 (North Clackamas County Service Area) and from the tributaries of the Lower Tualatin River. Urban, Suburban, Commercial and Industrial land uses characterize these areas and the streams flowing through them have pollutant signatures similar to other places where the land use zoning is the same or similar. Maps of the sample sites are attached within the attached document.

6. Methodology

CCSD#1 contracted ODFW, a state agency, to perform the physical habitat and fish distribution project. The methodology that ODFW used is fully documented within their final report, which is the product of this project. ODFW's final report is attached to this document.

7. On-going tasks

Completion of this report provides CCSD#1 with valuable information about the physical habitat and fish distribution within our service district's boundaries. The study also provides us information about restoration techniques, especially large, woody debris placement, and what the effect of the LWD is on the stream channel, and also whether fish and aquatic species are using the LWD as habitat.

This study will be complimentary to the other types of biological, chemical, and flow monitoring current completed on each of these streams, and we plan to physical habitat and fish distribution sampling into our long-term monitoring plan. We expect to repeat this study on a 5-10 year basis, depending on funding availability. Additionally, this information will be used by the District when considering land use projects that could adversely affect the watershed and streams. By knowing where high- or low- sensitivity species are located, we can try to prevent degradation of the high quality areas, and try to determine what factors are most affecting the low quality areas (and then try to fix them).

8. Project Expenditures Table

To date, the Service District has paid 100% of the project costs, and is requesting reimbursement of \$20,000 as per the grant agreement.

Budget Items	Matching contribution (all amounts already paid by CCSD#1)		Total Cost
	Grant Award	Match Contribution	
PROFESSIONAL SERVICES Clackamas County Service District #1		\$47,000	\$47,000
Grant Award to be Reimbursed	\$20,000		
TOTALS:	\$20,000	N/A	\$67,000

9. Summary and conclusions

To summarize, the USFWS and Metro Greenspaces provided CCSD#1 with \$20,000 toward a \$67,000 study to assess physical habitat and fish distribution in urban streams in Clackamas County. Each stream was sampled seasonally throughout beginning in fall, 2002 through fall, 2003, and a final report was released in October, 2003. CCSD#1 used the funding to hire ODFW to conduct the survey, and ODFW implemented the project using the same methodology as used elsewhere in the region to ensure consistency of the data within the region. Abundance and Distribution of Fish in Clackamas County Urban Streams, Final Report, 2002-2003

The study sampled tributaries of the Lower Tualatin River watershed, none of which had any fish distribution data prior to the study sampling. Cutthroat Trout were present in most streams, with salmon and steelhead present in some of the stream channels. Salmon are present year-round only in the Rock Creek watershed, which is a subbasin of the Clackamas River. The study also indicated that physical habitat parameters have changed substantially since the 1997 survey of the Kellogg Creek watershed, specifically in the stream reaches where CCSD#1 has initiated instream and riparian restoration. Some of these results were decreases in silt on the bed substrate, increase in shade along the stream channels, and decrease in glide habitat in lower Mt. Scott Creek. This is encouraging, and indicates that instream restoration has been successful in one of the goals, which was to change the stream complexity from glide to pool/riffle habitat types.

Lessons Learned:

Work with landowners more closely to have them understand that their small, intermittent streams are important for habitat, water quality, and fish distribution.

Provide notification early to landowners so that they are comfortable with survey crews entering their property

Coordinate with other agencies about the survey so that they know about the project (and can join in if interested)

10. Supplemental information such as copies of data, documents, scientific papers, printed materials, or other products related to the project. A set of color slides or prints with descriptions must accompany the report to depict project activities and, for habitat restoration and/or enhancement work, site conditions before, during, and after project implementation.

Please see the attached report titled "Abundance and Distribution of Fish in Clackamas County Urban Streams, Final Report, 2002-2003"