FINAL REPORT

Assessment of Monitoring Methods and Benefits for Salmon Recovery Funding (SRF) Board Projects and Activities

June 2003

Prepared for

Interagency Committee
for Outdoor Recreation
Salmon Recovery Funding Board
Olympia, WA

Prepared by

Taylor Associates, Inc.

Cascadia Consulting Group

R2 Resource Consultants

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Taylor Associates, Inc.
Cascadia Consulting Group
Seattle, WA

R2 Resource Consultants, Inc.
Redmond, WA

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Our project success was largely dependent upon reaching our target number of project managers during our brief survey window from June 6-13, 2003. We would like especially to thank all the project managers who took the time to speak with interviewers and promptly returned phone calls so that they could be interviewed during this time.

Thanks to Debbie Knecht, Lewis County Public Works, for the photos of the 1999 Curtis Creek Barrier Removal project used on the cover of the report. These photos demonstrate an example of a before and after shot for a barrier removal project on Curtis Creek. This project provides an example of a recently completed in-stream passage project using Salmon Recovery Funding Board (SRFB) funds to remove a velocity barrier to fish passage.

Christy Shelton, Cascadia Consulting Group (CCG), developed the survey with technical assistance from Paul DeVries, R2 Resource Consultants, Inc., William Taylor, Taylor Associates, Inc. (TAI), and Sharon Walton, TAI. Laura Blackmore, Peter Erickson, Katie Kennedy, and Amity Lumper from CCG along with William Taylor, Heidi Wachter, and Sharon Walton from TAI conducted the interviews of project managers. Rob Oswald, CCG, and Peter Erickson completed database development. Peter Erickson performed the initial data reduction and analysis of survey responses with final analysis completed by Paul DeVries, Christy Shelton, William Taylor, and Sharon Walton.

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TABLE OF CONTENTS

ACKNOWLEDGMENTS ..... **i**

TABLE OF CONTENTS ..... **iii**

TABLES AND FIGURES ..... **v**

EXECUTIVE SUMMARY ..... **vii**

1.0 INTRODUCTION **1**

2.0 SURVEY SYNOPSIS **1**

3.0 SURVEY DESIGN **3**

4.0 SURVEY IMPLEMENTATION **4**

5.0 DATA ANALYSIS **5**

6.0 RESULTS **5**

6.1 GENERAL SURVEY RESULTS/PROJECT OVERVIEW 6
6.2 MONITORING RESULTS 7
6.2.1 Monitoring Requirements 7
6.2.2 Monitoring Methods 8
6.2.3 Baselines, Duration, and Costs 8
6.2.4 Monitoring Observations 9
6.3 RESULTS BY MAJOR FUNDING CATEGORY 9
6.3.1 Acquisitions 9
6.3.2 Assessment/Studies 10
6.3.3 Habitat/capital Projects 10
6.4 OVERALL PROJECT FEEDBACK 12

7.0 DISCUSSION OF KEY FINDINGS **13**

7.1 OVERALL SURVEY IMPRESSIONS 13
7.2 FINDINGS PERTINENT TO EFFECTIVENESS MONITORING OF SRFB-FUNDED PROJECTS 13
7.2.1 Project Category Relationships and Relative Effectiveness 14
Did acquisitions lead to projects? 14
Did assessments lead to projects? 14
Did projects originate from assessments? 15
Did assessments lead to acquisitions? 15
7.2.2 Monitoring Methods 15
What monitoring methods are currently being used? 16
Interpretation of Monitoring Methods and Metrics Findings by Project Type? 17
What are the connections between survey results and proposed SRFB draft monitoring and evaluation strategy? 19
7.2.3 Benefits to Salmonids 21
What benefits were observed for salmonids and associated habitat? 21

8.0 RECOMMENDATIONS 22

8.1 FUTURE PROJECTS AND MONITORING 22

8.1.1 Acquisitions 22

8.1.2 Assessments/Studies 22

8.1.3 Habitat/Capital Projects 23

8.2 FUTURE ASSESSMENT OF PROJECT EFFECTIVENESS 23

8.3 FUTURE SURVEYS 23

REFERENCES 25

APPENDIX A: SURVEY A-1

APPENDIX B: SURVEY RESULTS B-1

TABLES AND FIGURES

Table 1: Summary of Projects Surveyed by Type..... 2

Figure 1: SRFB Adaptive Management Model 20

EXECUTIVE SUMMARY

To date, approximately 260 projects and activities across the state have been completed using Salmon Recovery Funding Board (SRFB) funds. The recovery of salmonid habitat and ultimately salmonid populations across the state as a result of these projects and activities has not been quantified since the inception of the SRFB program in 1999. To better understand the effectiveness of these projects and quantify the benefits to salmonids and their associated habitat to date, the SRFB funded this pilot survey of completed projects and activities.

Taylor Associates Inc. along with Cascadia Consulting Group and R2 Resource Consultants (the Taylor Team) conducted this survey of completed projects funded by past SRFB grants. Specifically, the Taylor Team conducted a telephone survey of project managers associated with 143 completed projects that were funded by the SRFB between 1999 and 2001.

The goals of this telephone survey were twofold: (1) to evaluate general project success to date, and (2) to determine what monitoring methods are being used to evaluate project success and benefits. To accomplish these goals, project managers were asked a series of general questions about their project and a series of specific questions related to one of three main funding categories under which their project was grouped: acquisitions, assessments/studies, or habitat/capital projects. The habitat/capital group questions were further divided into six project types: in-stream diversions, in-stream habitat, in-stream passage, riparian habitat, upland habitat, and estuarine/marine nearshore.

Project manager responses were recorded in an online database and the results analyzed for general trends across all project types and for trends within the three project categories. Some of the key results include:

- Overall, 81 percent of all projects (n=143) reported meeting their original project objectives.[1]

[1] Please note that whenever reported results include multiple project types (such as for all projects, or for all habitat projects), the figures cited have been calculated in a manner that places more importance (or weight) on responses from project types that represent a larger portion of all completed projects in the population.

- For acquisition and habitat/capital projects, 80 percent of project managers (n=118) stated that monitoring was being conducted in association with the project.
- Only 55 percent of habitat/capital projects (and only 48 percent when acquisitions are included) included provisions for monitoring as part of their original project proposal. For individual project types, inclusion of provisions for monitoring ranged from 42 percent (in-stream diversions and riparian habitat) to 80 percent (upland habitat).
- Twenty-six percent of projects were reported to have submitted a monitoring plan to the IAC or SRFB.
- For the six habitat/capital project types, monitoring was most frequently based on either characterization and descriptive techniques (59 percent) or temporal (before-after) sampling strategies (59 percent).
- Fish/redd sampling (62 percent), riparian vegetative surveys (41 percent), and habitat characterization (27 percent) were cited as the top three methods used to evaluate projects.
- Fish species/density/age class structure (61 percent), riparian vegetative changes (38 percent), and channel morphology changes (21 percent) were cited as the top three metrics used to evaluate projects that included monitoring elements.
- Eighty-seven percent of project managers (n=80) stated that specific monitoring results were observed. These results were largely related to the successful installation of the project and included performance of screens, survival of plantings, and reduction in erosion as observable results.

Because of the limited scope of the survey, multiple project participants were not interviewed (except in a few instances) and the interviews were restricted primarily to discussion with the project manager or the primary project lead. The results presented here represent the self-reported findings largely of the project managers or key staff responsible for implementing the project.

Therefore, the survey results presented for this report represent largely a qualitative assessment of (1) how successful projects were in completing intended objectives and (2) the extent to which either qualitative or quantitative monitoring of the project occurred. The qualitative nature of these survey results was a limitation of project scope and schedule. Additionally, the subjective nature of interviewing for the opinions or perspectives of project managers regarding their own projects contributed to the qualitative nature of the survey results.

Survey results suggest that for most projects, some degree of implementation monitoring is occurring. Completion of this level was demonstrated by most projects as supported by project manager's responses to whether project objectives were met. Since most of these objective statements focused on implementing some action, implementation (compliance) monitoring was essentially performed for a high percentage of projects (81 percent of projects completed objectives as planned with only 2 percent citing objectives as incomplete).

Monitoring effectiveness of the project in meeting engineering and design criteria has also occurred for some projects. This level of monitoring was observed mostly in the case of in-stream passage, in-stream diversion, in-stream habitat, riparian, and upland projects.

Relatively few projects appeared to be associated with monitoring programs complex enough to begin to address the effectiveness of the project in meeting habitat-based outcomes. The project type most usually associated with effectiveness monitoring on this level came largely from the in-stream habitat project type where the greatest focus was on fish use and physical characterization of the habitat. Fish passage projects generally demonstrated the utilization of habitat upstream of the former barrier but generally could not quantify changes in fish usage related to the completion of the project.

No projects appeared to have collected effectiveness monitoring data (to date) to support assessment of local fish abundance or complete validation monitoring. Respondents cited a distribution of methods (fish/redds monitoring, habitat surveying, and so on) used for monitoring project effectiveness but these methods typically were not performed quantitatively and generally focused on qualitative documentation using methods like visual characterization.

Projects and activities that were included for the survey were generally completed in the last one to three years. Overall, very few of these completed projects or activities were (or are being) rigorously monitored to demonstrate an effect on fish survival or production. Since all projects are relatively new, any of the longer-term monitoring results that would answer larger questions about fish production have yet to be produced so no conclusive results can be stated. Given these findings and the accompanying observation that most monitoring has tended to rely on characterization and limited before-after comparisons rather than a structured monitoring plan, demonstrating that a project resulted in increased survival and fish production or if a project simply resulted in redistributing fish may not be possible in most cases.

For example, benefits of in-stream passage projects were typically corroborated using primarily visual characterizations to assess whether access to additional habitat was provided above the project site. That is, passage barriers were removed and fish were typically noted upstream when they had not been observed (or fewer numbers were observed) before. However, causal linkages were not determined between the visually observed results of increased fish usage upstream and increases in fish production in the system as a whole.

Similarly, survey results regarding monitoring of in-stream habitat projects suggest that the quality of habitat was generally improved and fish were now utilizing the project site whereas limited or no use of the site was documented prior to the project being completed. Whether the monitoring programs that were in place were designed to detect increases in production as opposed to fish simply redistributing themselves from one area to another was not apparent from survey results.

The preliminary results from this pilot assessment suggest that an experimental design to test positively the cause and effect between a specific project or set of projects and increased salmon production would require a significant amount of thought and subsequent financial and time commitments. Meeting such a rigorous experimental design may not be currently feasible on a project-by-project basis without significant funding increases.

Given the potential scale of monitoring required to evaluate the direct impact of projects on salmonid production, the SRFB could consider instead monitoring programs at the project-type level (passage, diversion, habitat, and so on). Such an effort could focus on determining: (1) what type of monitoring is appropriate to evaluate project effectiveness or success; (2) what specific questions should be addressed by each project type's monitoring plan; and (3) how monitoring results might affect SRFB's future decision-making processes.

1.0 INTRODUCTION

In 1999, the Salmon Recovery Funding Board (SRFB) was created by the Washington State Legislature to help fund salmon habitat projects and activities based on local priorities. These projects and activities have focused on land acquisitions, assessments and studies, and a variety of habitat projects including riparian and upland enhancements, barrier removals, channel enhancements, diversions, and estuarine/marine enhancements.

To date, approximately 260 projects and activities across the state have been completed using SRFB funds. The recovery of salmonid habitat and ultimately salmonid populations across the state remains unknown or not quantified at this time as a result of these projects and activities. To better understand the effectiveness of these projects and quantify the benefits to salmonids and their associated habitat, the SRFB funded this pilot assessment of completed projects and activities.

Taylor Associates Inc. along with Cascadia Consulting Group and R2 Resource Consultants (the Taylor Team) conducted this assessment of completed projects funded by past SRFB grants. This assessment consisted of a telephone survey (conducted by the Taylor Team) of project managers associated with 143 randomly selected projects that have been completed using SRFB funds between 1999 and 2001.

This report includes a synopsis of the survey, survey methodology, results, discussion, and recommendations. To the extent possible, the effectiveness of the projects and activities and associated benefits to salmon are quantified in the results section with related key questions addressed in the discussion. Additionally, the monitoring elements being used to evaluate the success of these projects and activities are described and related key elements are also addressed in the discussion.

2.0 SURVEY SYNOPSIS

For the assessment of completed projects, 160 projects were targeted for surveying with 143 surveys completed (55 percent of the total completed projects). From the total population of 260 projects, 143 completed surveys produces results with an estimated margin of error of ±5.5 percent at the 95 percent confidence level. To reduce coverage and non-response error and to obtain adequate representation of all project types, projects were selected using a stratified sampling approach, according to project type. For projects types with a small number of projects completed, all were included in the study while

project types with a large number of projects completed, some were randomly sampled. For example, surveys were attempted for all projects within a type for types with less than 25 projects. For types with more than 25 projects, 25 projects were randomly selected for interviewing. This sampling strategy was intended to improve the quality of the results. For project types in which not all projects were interviewed, the margins of error for the results are higher than for the overall survey population, due to the smaller populations and sample sizes.

The project types included acquisitions, assessments/studies, in-stream diversions, in-stream passage, in-stream habitat, riparian habitat, upland habitat, and estuarine/marine nearshore. The last six project types were identified collectively as the habitat/capital project category.

The survey was conducted over a six-day period beginning June 6 and ending on June 13. During these six days, an estimated 196 project managers were contacted or contacts attempted from a population of 260 possible completed projects. Of these contacts or contacts attempted, 143 projects and their project managers were successfully contacted and interviewed as summarized in Table 1 below. In some instances, a single project manager may have been interviewed for more than one selected project since multiple projects for certain areas of the state were managed by the same individual.

Table 1: Summary of Projects Surveyed by Type

Project Type	Pre-survey Project Totals[1]	Adjusted Totals[2]	Interview Target Totals	Actual Totals
Acquisition	21	21	21	21
Assessments and studies	77	76	25	25
In-stream diversions	20	21	20	19
In-stream passage	55	57	25	26
In-stream habitat	39	38	25	20
Riparian habitat	29	31	25	19
Upland habitat	16	13	16	10
Estuarine/marine nearshore	3	3	3	3
Grand Totals	260	260	160	143

1Totals here are based on the initial project categorization by the Taylor Team.

2Totals here are based on the final project categorization. After the surveys were completed, totals within some types were adjusted based on recategorization of the project based on information from the project manager.

Following the completion of the six-day survey period, each interviewer reviewed their data input and provided quality assurance/quality control for their respective survey results. This additional step was necessary prior to finalizing entry of the survey data into the survey database and beginning the result analysis. The primary tabulation and analysis of survey results occurred between June 17 and June 20, 2003, with some additional analysis continuing between June 23 and June 30, 2003.

3.0 SURVEY DESIGN

Because of the project's short timeline, survey design began at the kick-off meeting on May 27, 2003 and concluded on June 4, 2003. Both the Taylor Team and staff from the Interagency Committee for Outdoor Recreation (IAC)/SRFB participated in the initial discussion of the survey development at the May 27, 2003 meeting. Subsequent meetings were held by the Taylor Team to develop draft questions. Draft survey questions were developed using several sources of information as guidance. These sources included five main items: (1) the discussion at the May 27, 2003, project kick-off meeting; (2) the project scope agreement, work order number 0467-03-04-01-101008; (3) the Draft Monitoring and Evaluation Strategy for Habitat Restoration and Acquisition Projects; (4) the Washington Comprehensive Monitoring Strategy for Watershed Health and Salmon Recovery; and (5) the Fourth Round 2002 Salmon Application Forms. These sources of information served as background information for developing the draft survey questions.

The Taylor Team developed the majority of the draft survey questions over two working sessions on May 27, 2003 and June 2, 2003. The IAC/SRFB staff received the draft survey for review on June 3, 2003, and their comments were incorporated into the final survey on June 4, 2003. Appendix A includes a copy of the final survey instrument.

The goals of the survey questions were twofold: (1) to evaluate broadly overall project success to date and (2) to determine what monitoring methods are being used to evaluate projects. To accomplish these goals, the survey questions were divided among four main themes: (1) introduction and general background; (2) project overview; (3) monitoring of project results; and (4) overall project feedback.

The first and fourth themes were broad, and similar questions were asked of all project managers. Questions were more specific for the second and third themes, and reflected the three main project categories funded by SRFB – acquisition, planning and assessments, and habitat/capital projects. Project types were grouped into these three categories to identify whether differences in project success or levels of monitoring

differed between categories. The monitoring section also included questions specific to the six habitat/capital project types: in-stream passage, riparian habitat, in-stream diversion, in-stream habitat, upland habitat, and estuarine/marine nearshore.

In conjunction with the survey design, the Taylor Team also developed a Microsoft Access® database for real-time recording of responses while conducting the phone interviews. The database included a user-friendly data-entry form for the interviewers to use as a script during the phone surveys. The electronic form listed each survey question and included checkboxes for answers as well as text fields for qualitative responses or additional comments. The database was tailored to include questions for only the relevant project category and type, so that the survey was easily customized for each target project. The database also recorded all survey responses for subsequent analysis of results. The database design was tested throughout the week of June 2-6 to ensure that the questions were asked in the proper order and that only the relevant questions were asked of each project type.

4.0 SURVEY IMPLEMENTATION

On June 5, 2003, the Taylor Team held a survey training to prepare all the interviewers for conducting the phone surveys. The purpose of this training was to ensure that each staff member performing interviews would follow a standardized approach to survey questioning and data entry into the project database. This training also provided an opportunity for the interviewers to raise any questions about the survey content, goals, or expected results.

The survey of project managers for the selected projects was conducted between June 6 and June 13, 2003. Four attempts typically were made to contact each selected project manager over the course of the survey period. If successful contact of the selected project manager was not completed after four attempts or if it was determined that the project manager was not available during the survey period (for example, on vacation or in the field), the project manager for the next randomly selected project was contacted for the designated type, if additional projects were available. Half of the project types – acquisition, in-stream diversions, upland habitat, and estuarine/marine nearshore – had fewer than 25 projects completed and thus did not have back-up projects to contact if the initial contact attempts proved unsuccessful. For those project types, we made repeated contacts until we completed all the interviews that were possible within the survey timeframe.

5.0 DATA ANALYSIS

Upon completion of the phone interviews on June 13, 2003, the Taylor Team began analysis of the survey results. Queries were developed to summarize the survey results in the Access database. Quantitative results were then exported to a Microsoft Excel® workbook for further analysis and display of the results in bar graphs, pie charts, or summary tables. For qualitative answers and comment fields, answers were reviewed and summarized to the extent possible in the results section and Appendix B.

Because the sampling approach emphasized adequate coverage of project types with a limited number of completed projects, the number of surveys conducted for each project type was not necessarily representative of their proportion of the total number of projects. Some project types were overrepresented (acquisition, in-stream diversions, riparian habitat, upland habitat, and estuarine/marine nearshore), while others were underrepresented (assessments/studies, in-stream passage, in-stream habitat) with respect to their proportion of the total population.

Hence, survey results were weighted according to the project type's proportion of the total project population to present aggregated overall findings across multiple project types. For example, the assessments/studies category represented 76 of the 260 total completed projects (29 percent), while the project type accounted for 25 of the 143 completed surveys (17 percent). As a result, quantitative results for that project type were weighted to reflect its actual proportion of the total projects, so that the overall results would be representative of the expected results for the total 260 completed projects.

6.0 RESULTS

In this section, the key results from the survey are presented by topic area. These areas include general survey results, overall monitoring results, major category results, and overall project feedback. Additionally, the major category results are presented by the three major activity/project areas: acquisitions, assessments/studies, and habitat/capital projects. Unless otherwise noted, all survey results presented here are as reported by the respondent project managers and do not necessarily reflect the judgment of the Taylor Team.

Additionally, please note that whenever reported results include multiple project types (such as for all projects, or for all habitat projects), the figures cited have been calculated in a manner that places more importance (or weight) on responses from project types that

represent a larger portion of all completed projects in the population. Accordingly, the figures cited are intended to be representative of all completed SRFB-funded projects. As a result of this weighting methodology, any figures calculated from the actual project counts cited in this report will not necessarily correspond to the weighted percentages.

To the extent possible, the effectiveness of the projects and activities and associated benefits to salmon are quantified. Additionally, the monitoring results used to evaluate the success of these projects and activities are described.

For this project, the initial sample size of 160 projects was based on the attempt to survey 65 percent of the complete projects to obtain a statistically valid sample (±5 percent sampling error at the 95 percent confidence level).[2] Since the list of completed projects was slightly larger (260 projects verses 243 projects) and the actual number of completed project was lower (143 verses 160), the sampling error associated with the final sample size is slightly higher at ±5.5 percent.

To facilitate navigation through these results, each bulleted item includes a reference to the survey question number, which corresponds to the survey questions and results appendices (Appendix A and Appendix B, respectively). In this section, only the key results are presented for the each topic area. The entire written survey and the complete survey results can be found in Appendices A and B, respectively.

6.1 GENERAL SURVEY RESULTS/PROJECT OVERVIEW

For the general and project overview questions found in Parts A and B of the survey (Appendix A), the key survey results are presented. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- Overall, 81 percent of all projects (n=143) reported meeting their original project objectives (Questions B-1 through B-3).
- Most projects reported meeting their target budget (86 percent) and timeline (77 percent). These rates were 90 percent for acquisition projects (Questions B-4 and B-5). Reasons cited for not meeting project budget included underestimated

[2] The target of 160 projects provided a small “cushion” to allow for unreachable project managers and other reasons for incomplete surveys. To reach the target sampling error of ±5 percent, 149 completed surveys were needed.

costs, permitting difficulties, scoping, and seller-related reasons. Reasons for not meeting schedule included permitting difficulties, seasonal window of activity, staffing difficulties, scoping, data availability, and seller related reasons.

- Steelhead trout (71 percent), chinook salmon (62 percent), and coho salmon (61 percent) were the top three targeted species reported by projects (Question A-5). Note: respondents could list multiple target species.
- In-kind contributions (35 percent) were the largest reported source of matching funds followed by local funds (29 percent) and federal funds (23 percent). Note: respondents could list more than one source of matching funds. See Question A-6.

6.2 MONITORING RESULTS

Responses regarding the monitoring of specific project results are presented here for the general questions found in Part C of the survey (Appendix A). These responses are divided into four topic areas: monitoring requirements; monitoring methods; baselines, duration, and costs; and monitoring observations.

6.2.1 Monitoring Requirements

General survey responses are presented for questions related to the conducting of monitoring elements and the development of monitoring plans associated with implementing projects. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- For acquisition and habitat/capital projects, 80 percent of project managers (n=118) stated that monitoring was being conducted in association with the project (Question C-1).
- Only 55 percent of habitat/capital projects included provisions for monitoring (48 percent when acquisitions are included) as part of the project proposal. For individual project types, inclusion of provisions for monitoring ranged from 42 percent (in-stream diversions and riparian habitat) to 80 percent (upland habitat). See Question C-2.
- Forty-six percent of project managers stated that a monitoring plan was written with another 13 percent stating they did not know (Question C-3).
- Only 26 percent of project managers stated a monitoring plan had been submitted to the IAC or SRFB with another 14 percent stating they did not know (Question C-4).

6.2.2 Monitoring Methods

General survey responses are presented for questions related to monitoring methods used for evaluation of project effectiveness. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- Of the projects where monitoring was being conducted (n=81), 69 percent stated that the results were available in some format (Question C-11).
- For the six habitat/capital project types, monitoring was most frequently based on either characterization and descriptive techniques (59 percent) or temporal (before-after) sampling strategies (59 percent). See Question C-12.
- Fish/redd sampling (62 percent), riparian vegetative surveys (41 percent), and habitat characterization (27 percent) were cited as the top three methods used to evaluate projects (Question C-13).
- Fish species/density/age class structure (61 percent), riparian vegetative changes (38 percent), and channel morphology changes (21 percent) were cited as the top three metrics used to evaluate projects (Question C-15).

6.2.3 Baselines, Duration, and Costs

General survey responses are presented for questions related to the establishment of a monitoring baseline, duration of monitoring elements, and costs associated with monitoring. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- Sixty-seven percent of project managers (n=81) stated that a baseline had been determined for the project with baseline data most commonly reported (>75 percent) for in-stream habitat, in-stream passage, and riparian habitat projects (Question C-16).
- Information was not provided consistently in the survey responses regarding monitoring costs and related expenditures. Many project managers cited existing programs that funded some ongoing monitoring element. Others provided nominal dollar amounts associated with their respective monitoring programs.
- Sixty-nine projects provided monitoring frequency information (Question C-18). When project managers were asked how often data collection occurred, annual (30 percent) or semi-annually/quarterly (26 percent) were the most common responses.

- Responses (n=78) to monitoring program duration (Question C-19) varied from less than one year (1 percent) to indefinite or ongoing (44 percent). The range of four to five years received the second highest number of responses at 34 percent.

6.2.4 Monitoring Observations

General monitoring observations are presented for two questions specific to this topic. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- Eighty-seven percent of project managers (n=80) stated that specific monitoring results were observed (Question C-20). These results were largely related to the successful installation of the project and included performance of screens, survival of plantings, and reduction in erosion.
- Project managers stated changes were noted in fish presence or density in 47 percent of the projects (n=86). See Question C-21.

6.3 RESULTS BY MAJOR FUNDING CATEGORY

Responses related to the monitoring of specific project results are presented here for the category specific questions found in Part C (Appendix A). Major funding categories of projects were defined as acquisitions, assessment/studies, and habitat/capital projects and corresponding questions were answered by respondents depending upon the category of their project. Projects were grouped into these three funding categories to identify whether differences in project success or levels of monitoring differed between categories. Some of the principal survey results by category are presented in this section.

6.3.1 Acquisitions

For acquisitions, results are presented for four main questions specific to this project category. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- For acquisition projects, preservation was the most common stated project purpose (>90 percent) with at least 95 percent of acquisitions based on an assessment or study (Questions B-A1 and B-A2).
- Of the acquisitions that were based on assessments, 75 percent were based on assessments that included prioritized actions for the watershed. The assessment type was typically a habitat assessment or limiting factors analysis (Questions B-A3 and B-A4).

- Generally, the exact parcels being acquired were not specifically designated as prioritized actions for the watershed. However, the parcels acquired often did lie within larger areas that had been designated by the assessment as priorities. Furthermore, many project managers indicated that the parcel of land actually acquired was somewhat different from the originally intended parcel. In some cases the parcel grew in size (because of unanticipated events such as landowner donations), whereas in others an entirely different parcel was purchased (generally due to higher than expected land value).
- For acquisition projects, 71 percent had some type of project under way with 60 percent reporting riparian habitat as the most common type (Questions B-A5 and B-A6, Appendix B).

6.3.2 Assessment/Studies

For assessment/studies, results are presented for five main questions specific to this project category. Complete question text and results can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided.

- Fifty-six percent of assessments completed focused on specific sites or projects while the remaining 44 percent focused on the watershed as a whole (Question B-P1).
- For assessments/studies (n=25), increase knowledge base (72 percent) and identifying watershed/physical processes affecting restoration (60 percent) were identified as the top two goals associated with these projects (Question B-P2). Note: respondents were able to indicate multiple project goals.
- For 60 percent of assessments, a public report was completed. For another 8 percent, reports were completed but were not generally available to the public (Question B-P3).
- Fifty-six percent of assessments led to the identification of specific projects. These project included in-stream habitat, estuarine/marine nearshore, in-stream passage, and riparian habitat as the top four project types (Question B-P4 and B-P5).

6.3.3 Habitat/capital Projects

For habitat/capital projects, results are presented for five of the six project types. Estuarine/marine nearshore project results are not discussed here because of the small sample size (n=3). Complete question text and results can be found in Appendix A and

Appendix B, respectively. For each result stated, the corresponding question number is provided.

- For 96 habitat/capital projects, 74 percent were based on an assessment. Of those 96 projects, 39 led to some other project in the watershed (Questions B-H1, B-H5, and B-H6).
- For in-stream passage projects, 75 percent of projects conducted surveys of adults, redds, juveniles, and/or fry upstream of the barrier after implementation. Observation was the most common method (75 percent) with trapping, electrofishing, seining, or other method being cited much less frequently (Questions C-H2.1 and C-H2.2).
- Upstream/downstream comparisons were made for in-stream passage projects in only 30 percent of the projects with an additional 26 percent of project managers stating they did not know (Question C-H2.3).
- The primary purpose of riparian habitat projects was to provide in-stream shading (71 percent), followed by spawning/rearing habitat protection (59 percent), and bank stability (53 percent). Note: respondents were able to indicate more than one project purpose (Question C-H3.1).
- Willow stakes, container plants, and seedlings were the top three types of plant materials used for riparian planting projects (Question C-H3.2).
- Additional plantings were typically necessary for riparian plantings (56 percent), but temporary erosion control measures were not usually needed (only 12 percent). See Questions C-H3.4 and C-H3.5.
- For in-stream diversion projects where reduction in water was applicable (n=12), 67 percent stated that a reduction occurred. For projects where screens were applicable (n=11), 82 percent of respondents stated that the screens were 100 percent effective while the remaining 18 percent stated the screens were more than 75 percent effective (Questions C-H4.1 and CH4.2).
- For in-stream habitat projects, 94 percent of respondents stated habitat creation as the primary purpose of the project followed by 22 percent stating sediment transport modification (Note: respondents could state one or more purposes associated with their project). See Question C-H5.1.
- All ten of the upland habitat projects were completed for fine sediment abatement while four of the ten also stated stormwater control as a purpose of the project (Question C-H6.1).

6.4 OVERALL PROJECT FEEDBACK

Section D of the survey provided project managers an opportunity to give their overall impressions regarding project success, share lessons learned, and provide general feedback to the SRFB. Most questions asked in this section of the survey allowed for open-ended responses. Complete question text and responses can be found in Appendix A and Appendix B, respectively. For each result stated, the corresponding question number is provided. Only a brief summary of responses is presented here for this section of the report.

- Most survey respondents rated their projects as either very successful (74 percent) or moderately successful (24 percent). By individual project type, in-stream diversions (94 percent) and in-stream passage projects (96 percent) most frequently rated their project as very successful (note: 100 percent of estuarine/marine nearshore projects were rated as very successful but the sample size was only three). See Question D-1.
- When project managers were asked to characterize the quality of habitat that their project protected or restored, most respondents stated the habitat was either excellent (39 percent) or good (38 percent). No major differences in the percent breakouts were noted for acquisitions versus habitat/capital projects (Question D-2).
- Most project managers (88 percent) felt that the work product met their expectations (Question D-4).
- Project managers were asked to describe what elements of the project were particularly successful. Responses included partnerships, volunteers, landowners, basic design, modeling, diversion itself, barrier removal, creation of passage, fencing, plant survival, and planting techniques (Question D-5).
- When queried about the keys to project success, responses included cooperation, communication, strong partnerships, landowner willingness, good staff, good technical support, qualified contractors and consultants, good planning and design, and funding (Question D-6).
- Difficulties encountered by project managers were quite varied. Some of the repeating themes included insufficient funding, permitting, and getting sufficient plant materials. As far as lessons learned that might be applicable to future projects and specific comments to the SRFB, responses were again quite variable and are listed in Appendix B, Section D responses.

7.0 DISCUSSION OF KEY FINDINGS

In this section, several topics are discussed. These topics include impressions of the overall survey, effectiveness of the projects and activities, monitoring elements, and associated benefits to salmon from completion of these projects and activities.

7.1 OVERALL SURVEY IMPRESSIONS

The overall project knowledge exhibited by most project managers ranged from good to very good. The length of time since project completion was one of the major factors affecting the recall of project details by project managers. Additionally, interviewers noted that project managers sometimes suggested talking to someone else to get additional details regarding budget, cost, and monitoring related information. Consequently, significant unexplained variation in the survey results reflecting different levels of project knowledge may exist, and thus, answers such as “don’t know” (or even “no”) should not be interpreted strictly as a negative response (for example, limited monitoring may have been performed independently, but the project manager was not aware of it). Because of the limited scope of the survey, multiple project participants were not interviewed (except in a few instances) and the interviews were restricted primarily to discussion with the project manager or the primary project lead.

The survey results presented for this report therefore represent a qualitative assessment of (1) how successful projects were in completing intended objectives, and (2) the extent to which either qualitative or quantitative monitoring of the project occurred. The qualitative nature of these survey results was a limitation of project scope and schedule. The subjective nature of interviewing for the opinions or perspectives of project managers regarding their own projects also contributed to the qualitative nature of the survey results. To obtain more quantitative results, an independent assessment of a subset of projects is recommended. Even so, the results presented here provide a good preliminary impression regarding project success and levels of monitoring associated with a subset of completed projects.

7.2 FINDINGS PERTINENT TO EFFECTIVENESS MONITORING OF SRFB-FUNDED PROJECTS

Using a question and answer format, three main topics are discussed in this section. These topics include relationships between major project categories, monitoring methods, and benefits to salmon. For each topic area, key survey findings are discussed for each question.

7.2.1 Project Category Relationships and Relative Effectiveness

In this section, several questions related to the relationship between the three main project categories and the development of subsequent projects is explored. This exploration includes whether habitat/capital projects resulted from acquisitions and assessments and whether assessments lead to acquisitions.

Did acquisitions lead to projects?

Based on responses to questions BA-5, BA-6, and BA-8 (Appendix B), most projects related to acquisitions are still in the conceptual stage, so whether they will actually be implemented remains unclear. Most planned or actual projects identified were related to riparian revegetation and/or invasive vegetation control. Dike setbacks were the next highest project priority related to acquisitions. These types of projects (riparian revegetation/invasive control and dike setbacks) may be associated with more general and abstract (that is, less direct, measurable) benefits to salmon than most of the other habitat project types (estuarine/marine nearshore projects are also associated with difficulty in determining direct benefits to salmon production and survival). For example, riparian revegetation may require relatively large areas to have an influence (except possibly in very small channels) and the effects of dike setbacks on channel form and habitat are not readily quantifiable in terms of increasing salmonid production.

Did assessments lead to projects?

From the survey results (Questions BP-4, BP-5, BP-6, and BP-7, Appendix B), the extent to which specific projects were identified by assessments was difficult to determine. Responses to Questions BP-4 and BP-5, (if and how many projects were identified) were almost unanimously affirmative but respondents did not make the distinction regarding feasibility or ability to implement projects. Although the format of the survey was not designed to address this issue in detail, in many cases the definition of a project may have been interpreted more loosely to include general recommendations and categories of projects rather than a specific on-the-ground project.

In corroboration, responses to Question BP-6 indicated that feasibility was generally not addressed, implying that most assessments will likely require additional assessments before on-the-ground projects are realized. Responses regarding actual implementation (BP-7) were similarly less positive: eight of twenty-five assessments were reported as being associated with projects begun or completed.

Did projects originate from assessments?

A sizable fraction of projects that were reported to have resulted from an assessment did not appear to have been identified specifically by the assessment (Question BH-1, Appendix B). Rather, the project usually represented a means for addressing a more general problem identified in the assessment. The assessment did not determine specifically what the projected, specific benefits of the project itself would be on a specific stream channel or fish population. Many projects were identified as a result of local knowledge of habitat problems and opportunities to address them.

Specific examples where projects were cited as a result of an assessment are provided below:

- In-stream diversion – screen locations were identified in several assessments;
- In-stream habitat – projects were generally identified through assessments for reaches as opposed to sites, but the type of project appeared to present habitat opportunities that were in relatively short supply locally, thus actual project location may have been less important;
- In-stream passage – culvert locations were identified through surveys and WDFW prioritization methods; and
- Upland habitat – road segments that were decommissioned or upgraded were often identified specifically in an assessment.

Did assessments lead to acquisitions?

Based on responses to questions BA-2, BA-3, and BA-4 (Appendix B), nearly none of the acquisitions that were reported to have resulted from an assessment appeared to have been identified specifically by the assessment cited. Rather, the property or conservation easement acquired usually represented habitat of a type identified in an assessment as being (1) in short supply, (2) at risk of development or other loss, and/or (3) of high priority. The assessment did not determine what the projected, specific benefits of acquiring the property itself would be on a specific stream channel or fish population. Many of the properties were identified based on local knowledge of habitat problems and opportunities to address them.

7.2.2 Monitoring Methods

In this section, three questions related to the monitoring methods are explored. These questions focus on (1) the methods currently being used, (2) interpretation of methods

and metrics results by project type, and (3) the connections between survey results and the SRFB draft monitoring and evaluation strategy.

What monitoring methods are currently being used?

Based on the 143 surveys, project managers for 80 percent of projects responded yes when asked whether monitoring was occurring or had occurred as a part of the project. The extent of this monitoring was explored further through several additional questions. When asked about the monitoring approach or sampling design, the use of one or more monitoring approaches was cited for 95 percent of projects, while the approach was unknown for 5 percent of projects. The approaches used included temporal (before/after, 59 percent), spatial (control/treatment, 11 percent), characterization/description (59 percent), or other methods (5 percent). When asked about the establishment of baseline data for the project, 67 percent of projects stated that a baseline had been established (n=81).

Project managers were also asked specifically about the methods and metric used for their projects. For the 82 projects that cited a method or methods being used, 62 percent of projects cited fish/redd sampling as the primary method. This method was followed by riparian/vegetative surveys (41 percent), habitat characterization (27 percent), water quality (19 percent), and inspection/observations (17 percent). The remaining methods cited occurred for eight or fewer projects. Regarding metrics cited (n=82), fish species/density/age class structure received the highest response rate (61 percent), followed by riparian/vegetative changes (38 percent), and channel morphology changes (21 percent). Again, project managers could indicate one or more metrics in their responses.

When asked whether monitoring results had been reported, 69 percent of projects responded yes (n=81). Of those that reported results, only one-quarter stated that these results were reported to the IAC or SRFB.

Monitoring methodology was explored in more detail through each of the six project specific types (in-stream diversions, in-stream passage, in-stream habitat, riparian habitat, upland habitat, and estuarine/marine nearshore). Additional information is provided for three of these project specific types where more detailed monitoring related questions were asked. These types include in-stream passage, riparian, and in-stream habitat projects. Discussion of estuarine/marine nearshore projects is not included because of the

small sample size (n=3) while discussion of upland habitat and diversion projects is not included due to the limited monitoring scope associated with these project types.

For in-stream passage projects, 18 of 24 (75 percent) projects stated that surveys of adults, redds, juveniles, and/or fry occurred upstream after the barrier was removed. Methods used were largely observational (75 percent) with remaining methodologies including trapping, electrofishing, seining, or other being listed at rates much lower rates (between 4 and 17 percent). For the 18 projects monitored, 11 projects indicated changes upstream and 2 projects cited changes both upstream and downstream. The remaining 5 projects did not know whether changes had occurred.

Of the 24 in-stream passage projects, 21 projects cited the opening of spawning and rearing habitat upstream, while 3 projects did not know. Eleven of these projects stated that better habitat upstream of the diversion was now available relative to what was previously available downstream.

For riparian habitat projects, plant survival was the primary measure of project effectiveness. Plant survival ranged from greater than 40 percent (14 percent of projects) to greater than 90 percent survival (5 percent of projects). The majority of projects fell into the 75 percent (23 percent of projects) or the 80 to 90 percent (26 percent of projects) survival ranges. Additionally, 56 percent of projects required additional plantings.

For in-stream habitat projects, a series of more detailed questions about the project were asked if the project was either spawning gravel, erosion, adult habitat creation, or juvenile habitat related. Because of the small sample sizes for each subtopic, the results are not summarized here but can be found in Appendix B, questions C-H5.1 through C-H5.5.

Interpretation of Monitoring Methods and Metrics Findings by Project Type?

Acquisitions: In general, acquisitions are not associated with directed (that is, focused) monitoring. Only one acquisition project manager responded affirmatively regarding the completion of a detailed monitoring program. Perhaps lack of monitoring for this category may be a reflection of projects associated with the acquisition not being implemented yet. However, as a rule, even baseline monitoring was generally limited and intermittent for this project type. As a result, assessing whether the purchase achieved any benefits to salmon beyond those assumed to be associated with simple land preservation (the primary stated reason for acquisition by survey respondents) is not possible based on survey results.

Estuarine/marine nearshore projects: Limited sample size of funded projects precluded identifying trends for this project type. For the three projects completed to date, monitoring did not appear to reflect a rigid sampling design to test specific hypotheses regarding benefits to salmon such as increased habitat use. Rather, the monitoring approaches appeared to reflect a broad, descriptive method.

In-stream diversions: Monitoring was primarily effectiveness-related but locally focused on the screen location to verify whether the screening apparatus was working properly and if fish were in the vicinity. This monitoring was based on visual inspection/observation and fairly simple in design. Based on the responses for this project type, it remained unclear whether sampling was being conducted to determine if fish still made it into the screened area or the fate of fish returning to the stream.

In-stream habitat: This project type was generally associated with a greater extent of monitoring data collection effort than the other types. For these projects, the greatest focus was on fish use (presence/absence) and physical characterization of habitat using before/after comparisons with possibly a limited number of control/treatment comparisons as well. Thus, data from these projects cannot currently be used to determine if the project resulted in increased production and survival overall or simply redistributed fish from one area to another. Currently, project success must be inferred from synthesizing a variety of information rather than evaluating specific hypotheses for a specific site.

Fish passage: Passage projects were evaluated primarily with effectiveness monitoring (perhaps more so than other project types) and typically involved sampling for or observing fish presence or absence above barriers. Sampling involved mostly visual surveys. However, most projects did not make comparisons with downstream and relied primarily on making before/after comparisons using descriptive observations made above the project area. Currently, monitoring results from most projects probably cannot be used to determine if providing passage resulted in increased production in the stream as a whole or simply redistributed fish. Longer-term monitoring approaches may help in this respect, however, if the escapement upstream increases measurably over time, after factoring out other influences.

Riparian: Implementation monitoring associated with plant survival was a strong component of the overall monitoring approach for this project type. Effectiveness

monitoring protocols were not consistently used among projects but rather, a variety of descriptive metrics were used but without rigorous effort towards identifying effects to fish. A limited number of projects were associated with some form of before/after or control/treatment testing. Only a few studies looked at fish-based metrics to gauge project effectiveness, sampling primarily for fish presence or absence. Importantly, only four of the nineteen riparian projects surveyed specifically reported monitoring water temperature, even though shading was stated most frequently to be the primary project purpose.

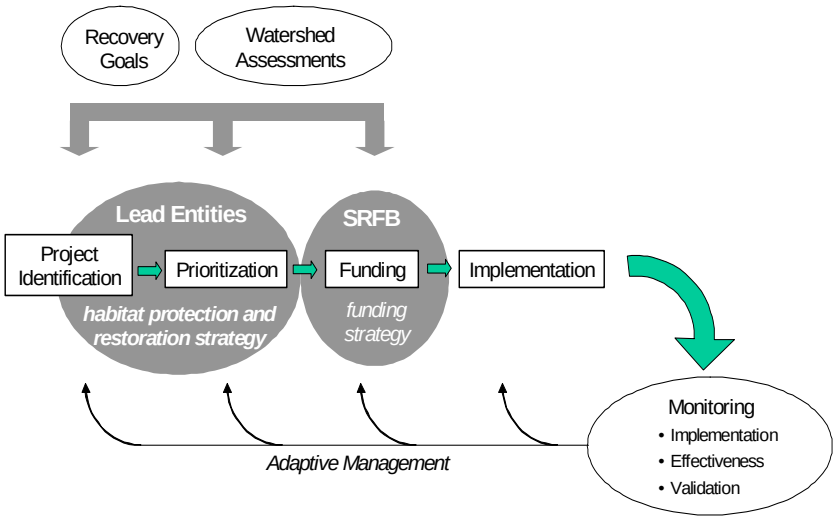
Upland habitat: Implementation monitoring was a strong component of overall monitoring approach for this project type. Effectiveness monitoring has consisted predominantly of indirect measurements including upslope erosion and in-stream embeddedness. Generally, no direct monitoring of effects on salmonid survival to emergence has occurred with exception of one reported effort to look at adult:fry ratios. Some projects looked at macroinvertebrate communities but it was not enquired how changes would be linked to project effectiveness. For several projects, effectiveness was defined in terms of changes in landowner practices. In general, project monitoring appeared to have a greater reliance on before/after comparisons than control/treatment comparisons.

What are the connections between survey results and proposed SRFB draft monitoring and evaluation strategy?

The SRFB's draft Monitoring and Evaluation Strategy (SRFB 2003) proposes several levels (Level 0-Level 4) of monitoring to evaluate project implementation success and guide adaptive management aspects and funding priorities for future projects. The levels of monitoring focus on three areas: implementation, effectiveness, and validation (Figure1).

Implementation monitoring (Level 0) determines whether an action has been implemented and requires a simple yes or no answer. Level 1 effectiveness monitoring focuses on whether a project has met its design and engineering criteria. Level 2 effectiveness monitoring focuses on whether a project meets habitat level functions while Level 3 effectiveness monitoring examines changes in fish abundance (production). Level 4 or validation monitoring operates on a watershed scale and looks to establish the cause and effect relationship between fish, habitat, water quality, water quantity, and related management actions (SRFB 2002).

Figure 1. SRFB Adaptive Management Model



Survey results suggest that for most projects, some degree of implementation monitoring (Level 0) is occurring. Completion of this level was demonstrated by most projects as supported by project manager's responses to whether project objectives were met. Since most of these objective statements focused on implementing some action, compliance or implementation monitoring was essentially performed for a high percentage of projects (81 percent of projects completed objectives as planned with only 2 percent citing objectives as incomplete).

Monitoring effectiveness of the project in meeting engineering and design criteria (Level 1) has also occurred for some projects. This level of monitoring was observed mostly in the case of in-stream passage, in-stream diversion, in-stream habitat, riparian, and upland projects.

Relatively few projects appeared to be associated with monitoring programs complex enough to begin to address the effectiveness of the project in meeting habitat-based outcomes (Level 2). In-stream habitat was the project type most commonly associated with Level 2 effectiveness monitoring. For these projects, the greatest focus was on fish use and physical characterization of the habitat. Fish passage projects generally

demonstrated the utilization of habitat upstream of the former barrier but generally could not presently quantify changes in fish populations related to the completion of the project.

No project individually appeared to have collected effectiveness monitoring data to support assessment of local fish abundance (Level 3) or complete validation monitoring (Level 4). Respondents cited a distribution of methods (fish/redds monitoring, habitat surveying, and so on) used for monitoring project effectiveness but these methods typically were not performed quantitatively and generally focused on qualitative documentation using methods like visual characterization.

7.2.3 Benefits to Salmonids

In this section, a single question regarding the benefits to salmon is explored. This question is addressed using the limited survey results for this topic.

What benefits were observed for salmonids and associated habitat?

The projects and activities included for the survey were generally completed in the last one to three years. Overall, very few projects of these completed projects or activities were rigorously monitored (or are in the process of being more rigorously monitored) to show an effect on fish survival or production. However, since the projects are relatively recent, longer-term monitoring results could potentially provide greater insights into effects on fish production. Presently, however, monitoring programs may not provide significant insights into the direct and indirect effects of funded projects.

For example, benefits of in-stream passage projects were typically corroborated using primarily visual, characterization based methods in terms of whether access to additional habitat was provided above the project site. That is, passage barriers were removed and fish were typically noted using the areas upstream when they had not been observed (or fewer numbers were observed) before. However, causal linkages were not determined between the visually observed results of increased fish usage upstream and increases in fish production in the system as a whole for this project type.

Similarly, the limited monitoring results for in-stream habitat projects suggest that the quality of habitat was generally improved and fish were now utilizing the project site when previously, limited or no use of the site was documented prior to the project being completed. Again, whether increased production was occurring or whether the fish were simply redistributing themselves from one area to another was not determined or was not intended to be determined through the monitoring program associated with the project.

8.0 RECOMMENDATIONS

This section contains recommendations to the SRFB for the three main project categories-acquisitions, assessments/studies, and habitat/capital projects. General recommendations are also provided for assessing project effectiveness in the future and for conducting subsequent evaluations (surveys) of project effectiveness.

8.1 FUTURE PROJECTS AND MONITORING

The survey results indicate the need for a more comprehensive monitoring effort than has occurred to date for SRFB projects and activities. Recommendations specific to the three main project categories are provided below based on survey results.

8.1.1 Acquisitions

The majority of acquisitions were based on a site preservation objective rather than a specific key habitat or refugia objectives. From the survey results, whether the objective of the acquisition was to preserve the site simply because there was an opportunity to purchase it independent of habitat was not clear. This result suggests that most acquisitions are based on incomplete to little information regarding the habitat value associated with the property. Therefore, the SRFB may have no real measure whether the purchase is making a difference individually or cumulatively across the state.

To ensure future acquisition projects are purchased for the more explicit purpose of protecting, restoring, or addressing salmon habitat, the SRFB may need to rely on better information than has been provided to date and consider whether applicants should include documentation of the specific benefits to salmonid habitat associated with any proposed acquisition projects.

For example, an independent review of projects associated with acquisitions could be conducted to identify or predict specific benefits to salmon by project type. The results of this review could be used to identify acquisition types that may be most directly beneficial to the long-term objectives of the SRFB.

8.1.2 Assessments/Studies

Assessments and studies need to be more focused on specific projects as end-points. The hierarchical strategy for prioritizing specific restoration activities recommended by Roni et. al. (2001) could be a possible framework, but it is beyond the scope of this document to determine how. For this category of SRFB projects, an independent technical review of

all assessment reports prepared to date is also recommended. This review would focus on more accurately determining the extent to which specific, on the ground projects were: (1) identified; (2) followed through on for funding, design, and permitting; and (3) implemented.

8.1.3 Habitat/Capital Projects

Based on the hierarchical strategy for prioritizing specific restoration activities (Roni et. al. 2001), projects that emphasize reconnection of isolated habitats are recommended for completion first. Related SRFB-funded projects that have been found through this survey to be most likely to be associated with effectiveness monitoring include in-stream passage and in-stream habitat. Survey results for fish passage projects generally support this strategy, confirming their apparent effectiveness and primary benefits to salmonids related to habitat access.

8.2 FUTURE ASSESSMENT OF PROJECT EFFECTIVENESS

Future monitoring of SRFB-funded projects will benefit from a more rigorous experimental design that would more directly assess cause and effect relationships. However, monitoring of the relationship between specific projects and increased salmon populations in a watershed would require an experimental design on such a time and spatial scale that the cost for the monitoring could approach the cost for a multitude of projects. In addition, uncontrolled sources of variation could well require extensive and intensive effort to detect a statistically significant change.

Given the potential scale of monitoring required to evaluate a cause and effect with regards to salmonid production, the SRFB could consider instead monitoring programs based on a project-specific level (passage, diversion, habitat, and so on). Specifically on the project level, determining (1) what type of monitoring is appropriate to evaluate specific elements of project effectiveness or success, (2) what type of information (what specific questions should be addressed) should a project specific monitoring plan and results provide, and (3) how that information might affect SRFB's future decision-making processes.

8.3 FUTURE SURVEYS

The responses to questions related to project success were generally positive and could be considered to be somewhat biased since those interviewed (primarily project managers) are also assumed to be the primary project proponents. Future survey work to evaluate project effectiveness should be constructed to ensure that the apparent potential for bias

could be minimized. This minimization may require using multiple survey tools or interviewing several project participants as well as completing an independent assessment of project effectiveness.

For example with more time, three to five technical committee members from each lead entity, in addition to project managers, could be interviewed to get a larger picture as well as multiple perspectives on the effectiveness of a single project or a group of projects for a region. Interviewing committee members and technical staff familiar with actual monitoring elements and outcomes would also be important. This approach would provide a range of responses that may be more likely to reflect critical objective responses than might come from a single project proponent.

The current survey results provide a quick, broad sweep of the projects. Future follow-up surveys and subsequent analysis could focus more intensively on particular areas of interest of the SRFB. Further surveys could also cover more of the completed projects, rather than just a sampling as was conducted for this project.

For future surveys, additional time and financial resources are recommended for preparing and reviewing the survey instrument, pre-testing the survey and the database, and conducting additional interviews with multiple project contacts. With additional time and related resources, further follow-up could be conducted to help verify any self-reported data. This follow-up might include field visits; additional interviews; and obtaining and reviewing project documentation, reports, and related materials. From this follow-up, different perspectives on the project would be gained which would be important for interpreting survey results and developing conclusions that are more definitive.

REFERENCES

Roni P., T.J. Beechie, R.E. Bilby, F.E. Leonetti, M.M. Pollock, and G.R. Pess. 2001. A review of stream restoration techniques and a hierarchical strategy for prioritizing restoration in Pacific Northwest watersheds. North American Journal of Fisheries management 22:1-20

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APPENDIX A: SURVEY

SALMON RECOVERY FUNDING BOARD

Evaluation of Completed Salmon Recovery Projects
Phone Interview Survey Instrument

June 29, 2003 – FINAL VERSION 1.4 (as fielded)

Survey Goals

- Evaluate overall project success to date
- Determine what monitoring methods are being used to evaluate projects

Survey Outline

A. Introduction & general background
B. Project overview
C. Monitoring of project results
D. Overall project feedback

Black text = general material, questions for all respondents

Red = Acquisition (A)
Green = Planning/Assessment (P)
Blue = Habitat/Capital (H)

A. Introduction & General Background

Hi, this is _____ from Taylor Associates/Cascadia Consulting, calling on behalf of the Salmon Recovery Funding Board. As you may know, we are conducting a survey of projects completed to date using SRF Board funding. This will take roughly 30 - 40 minutes to complete. Is this a good time for you?

Also, your responses to this survey will be kept anonymous; that is, they will be reported in aggregate form only with results from similar projects. No information will be provided to the SRF Board that would link your responses to you as an individual or to your specific project.

[For project managers with multiple project types:] Today I'm calling regarding _____ project; however, you may be contacted again to discuss other projects you manage.

A-1 For this study, I need to reach the project manager for the _____ project. Would that be you?

1- Yes
2- No (If NO, ask for appropriate person and/or set time to call back: _____)

A-2 [Verify key information from project database, such as Lead Entity and contact information.]

A-3 Was the project an acquisition, assessment, or capital habitat project?

1- Acquisition [If so, was it with or without projects?]
2- Assessment/planning study [If so, was it with or without projects?]
3- Capital/habitat restoration project
4- Other: (specify) _____

A-4 What was the project's primary type? [Check one only: prompt with category listed in database]

1- **In-stream passage** (culverts, bridges, fishways, logjams, dam removal)
2- **In-stream habitat** (channel reconfiguration, deflectors, log and rock control weirs, roughened channels, woody debris, channel connectivity, off-channel habitat, wetland restoration, spawning gravel)
3- **Riparian habitat** (riparian vegetation plantings, dike removal/setback, road abandonment, landfill removal, livestock exclusion)
4- **In-stream diversions** (fish screening, pipes, ditches, headgates, log and rock weirs)
5- **Upland habitat** (road decommissioning, no-till program, other upland sediment control)
6- **Estuarine/marine nearshore** (beach nourishment, bulkhead removal, dike breaching/removal, eel grass bed reestablishment, kelp forest reestablishment, landfill removal, plant removal/control, riparian plant installation, shoreline restoration, tidal channel reconstruction, tide gate removal)
7- Other: [specify] _____

A-5 Which target species was your project designed to help? [check all that apply]

1- Chinook salmon (*Oncorhynchus tshawytscha*)
2- Coho (*O. kisutch*)
3- Chum salmon (*O. keta*)
4- Pink salmon (*O. gorbuscha*)
5- Sockeye salmon (*O. nerka*)
6- Steelhead trout (*O. mykiss*)
7- Coastal cutthroat trout (*O. clarki*)
8- Bull trout (*Salvelinus confluentus*)
9- Other: [specify] _____

A-6 What was the source of your matching funds?

1- In-kind contributions
2- Federal funds
3- Other state funds
4- Local funds (city/county)
5- Private non-profit/foundation
6- Other: [specify] _____

B. Project Overview

B-1 In a few keywords, what were the original project objectives? [25 words or less]

B-2 What actually occurred? [25 words or less]

B-3 Clarify any key differences from the original proposal. [Comment field: Probe to determine whether the expected objectives and benefits noted on a project application actually occurred. For example, if the sponsor expected to open two miles of stream by installing the project, did that actually happen?]

B-4 Was the project completed within the original proposed timeframe and budget?

1- Yes
2- No: (specify) __ Time change __ Budget change [check all that apply]
3- Don't know

B-5 [If NO in B-4] Please briefly explain why the project did not meet its proposed schedule and/or budget.

*For **Acquisition** projects*
1- Seller-related reasons
2- Buyer-related reasons
3- Matching funds
4- Other: (specify) _____

*For **Planning/Assessment** projects*
1- Staffing
2- Data availability
3- Scoping
4- Site access
5- Other: (specify) _____

*For **Habitat** projects*
1- Permitting
2- Seasonal window for activity
3- Staffing
4- Matching funds
5- Other: (specify) _____

B-6 Approximately how much habitat (acreage, stream length) did the project protect, restore, or assess? (e.g., miles of stream restored, miles of riparian planted, acres acquired – if details not known, try to get ballpark information regarding scale)

For **Acquisition** Projects Only (**A**)

B-A1 What was the purpose of the acquisition?

1- Preservation
2- Capital project on site
3- Habitat access
4- Refuge/refugia
5- Don't know
6- Other: (specify) _____

B-A2 Was the acquisition based on an assessment?

1- Yes
2- No
3- Don't know

B-A3 [If YES in B-A2] What type of assessment?

1- Buying opportunities (e.g., landowner willingness to sell)
2- Habitat assessment/limiting factors analysis (e.g., watershed analysis, refugia study, habitat mapping)
3- Modeling assessment [If so, what type?]
4- Other: (specify) _____
5- Don't know

B-A4 [If YES in B-A2] Did the assessment include prioritized actions for the watershed?

1- Yes
2- No
3- Don't know

B-A5 Are any capital or O&M (operations and maintenance) projects planned or underway for the site?

1- Yes
2- No
3- Don't know

B-A6 [If YES in B-A4] What type of project(s) are planned or underway? [check all applicable and enter number of projects]

1- In-stream passage [enter number: _____]
2- In-stream habitat [enter number: _____]
3- Riparian habitat [enter number: _____]
4- In-stream diversions [enter number: _____]
5- Upland habitat [enter number: _____]
6- Estuarine/marine nearshore [enter number: _____]
7- Other: (specify) _____
8- Don't know

B-A7 [If YES in B-A4] Who is responsible for implementing the project(s)?

1- Project manager
2- State agency
3- Federal agency
4- Tribe
5- Private sector/consultants
6- Volunteers
7- Other: (specify) _____
8- Don't know

B-A8 [If YES in B-A4] What is the current status of the project(s)?

1- Planned [enter number: _____]
2- In progress [enter number: _____]
3- Completed [enter number: _____]
4- Ongoing maintenance [enter number: _____]
5- Don't know

For **Planning/Assessments** Only (**P**)

B-P1 Did the assessment cover the watershed as a whole or did it focus on specific sites or projects?

1- Overall watershed assessment
2- Site-specific or project-specific assessment
Comments: _____

B-P2 What were the primary goals of the assessment? [prompt if needed]

1- Acquisition
2- Feasibility/design
3- Capital project identification and prioritization
4- Increase knowledge base (baseline monitoring)
5- Identify watershed/physical process affecting restoration
6- Other: (specify) _____

B-P3 Was a report completed?

1- Yes [If YES, it is available to the public?]
2- No

B-P4 Did the assessment lead to identification of specific projects?

1- Yes
2- No [If NO, do you know why not?]

B-P5 [If YES in B-P4] List numbers of projects by type.

1- Acquisition [Enter number: _____]
2- In-stream passage [Enter number: _____]
3- In-stream habitat [Enter number: _____]
4- Riparian habitat [Enter number: _____]
5- In-stream diversions [Enter number: _____]
6- Upland habitat [Enter number: _____]
7- Estuarine/marine nearshore [Enter number: _____]
8- Other: (specify) _____

B-P6 [If YES in B-P4] Did the assessment identify project feasibility, expected costs, and next steps for implementation?

1- Yes
2- No

B-P7 [If YES in B-P4] How many projects have reached the following steps?

1- Completed 100% design [enter number: _____]
2- Funding applications submitted [enter number: _____]
3- Had funding awarded [enter number: _____]
4- Begun implementation [enter number: _____]
5- Been completed [enter number: _____]

For **Habitat** Projects Only (**H**)

B-H1 Was the project based on an assessment?

1- Yes [If YES, did the assessment include prioritized actions for the watershed?]
2- No

B-H2 Who planned and designed the project?

1- You
2- Your staff
3- Other agency
4- Consultant
5- Other: [specify] _____

B-H3 Who implemented the project (e.g., construction, plantings)?

1- You
2- Your staff
3- Other agency
4- Consultant
5- Other: [specify] _____

B-H4 Were additional funds needed for operation and maintenance (O&M) after the project was completed?

1- Yes: (specify source and amount, if possible) _____
2- No
3- Don't know

B-H5 Did this project lead to other projects in the watershed?

1- Yes
2- No
3- Don't know

B-H6 [If YES in B-H5] What type(s) of other projects did the project lead to?

1- In-stream passage
2- In-stream habitat
3- Riparian habitat
4- In-stream diversions
5- Upland habitat
6- Estuarine/marine nearshore
7- Other: [specify] _____
8- Don't know

C. Monitoring of Project Results

For **Planning/Assessments** Only

C-P1 In a few keywords, how is success measured? (e.g., miles of stream, barriers, or landowners surveyed) [Now SKIP TO SECTION D]

For **Acquisition (A)** and **Habitat (H)** Projects Only

C-1 Has any monitoring of the project been conducted to date?

1- Yes
2- No [If NO, why not?]
3- Don't know

C-2 Did the original proposal include provisions for monitoring?

1- Yes [If YES, what was planned for monitoring?]
2- No [If NO, why not? If NO to both C-1 and C-2, then **skip to Habitat subsection for project type, C-H#**]
3- Don't know

C-3 Has a monitoring plan been written?

1- Yes [If YES, who prepared the plan?]
2- No
3- Don't know

C-4 Has a monitoring plan been submitted to IAC/SRFB?

1- Yes
2- No
3- Don't know

C-5 Who is assigned responsibility for completing the monitoring?

1- You
2- Your staff
3- Other agency
4- Consultant/Contractor
5- Other: [specify] _____
6- Don't know

C-6 Who conducted the monitoring?

1- You
2- Your staff
3- Other agency
4- Consultant/Contractor
5- Volunteers [If so, who compiles and stores the information?]
6- Other: [specify] _____
7- Don't know

C-7 How much is the monitoring estimated to cost?

C-8 How much has been allocated for monitoring to date?

C-9 Were additional funds needed for monitoring the project?

C-10 Who is paying for the monitoring (SRFB and other sources)?

C-11 Have any monitoring results been reported?

1- Yes [If YES, to whom? Did you provide a written monitoring report? How are the results used?]
2- No
3- Don't know

C-12 Which basic monitoring protocol did you use?

1- Temporal (before-after)
2- Spatial (control-treatment/impact)
3- Characterization/description
4- Other: (specify) _____
5- Don't know

C-13 What monitoring methods are being used to evaluate the project?

1- Fish/redd sampling
2- Macroinvertebrate sampling
3- Habitat characterization
4- Water quality
5- Riparian/vegetative surveys
6- Other: (specify) _____
7- Don't know

C-14 Did you follow published protocols or standardized monitoring strategies?

1- Yes [If YES, which one(s)?]
2- No
3- Don't know

C-15 What indicators and metrics are being used to evaluate the project's success?

1- Fish species/density/age class structure
2- Reduction in erosion rate/sediment delivery
3- Increased volume of gravel/cobble stored/trapped
4- Channel morphology changes
5- Riparian/vegetative changes
6- Other: (specify) _____
7- Don't know

C-16 Has a baseline been established for metrics of interest?

1- Yes
2- No
3- Don't know

C-17 Where has the monitoring been conducted? (Please provide number of sites, areas, or stream length.)

C-18 How often have data been collected?

C-19 What is the time frame (duration) of the monitoring plan?

C-20 What results has the monitoring shown to date?

1- Inconclusive
2- Specific results observed (Brief description: _____)
3- Don't know

C-21 Were any changes in fish presence or local densities observed as a result of the project?

1- Yes [If YES, what changes?]
2- No
3- Don't know

For **Habitat** Projects Only (**H**)

[Note: These questions will be asked of project managers only if monitoring has occurred. We estimate that only about 20% of the projects include a monitoring element. Specific questions will be targeted for each of the six major habitat project categories.]

*For Habitat – **In-stream Passage** Only*

C-H2.1 Were surveys conducted of adults, redds, juveniles, and/or fry upstream of the barrier after implementation?

1- Yes (specify – check all the apply: adults, redds, juveniles, fry)
2- No
3- Don't know

C-H2.2 If yes, what methods used?

1- Electrofishing
2- Seining
3- Snorkeling
4- Observation
5- Other
6- Don't know

C-H2.3 Were upstream-downstream comparisons made?

1- Yes
2- No
3- Don't know

C-H2.4 Were changes noted upstream, downstream, or both? [check all that apply]

1- Upstream
2- Downstream
3- Don't know

C-H2.5 Did removing the barrier open up spawning/rearing habitat upstream?

1- Yes [If YES, did removing the barrier provide better quality spawning/rearing habitat upstream than was available downstream? Yes / No / Don't know]
2- No
3- Don't know

C-H2.6 Have you noted the flow range over which fish passage is now afforded?

1- Yes [If YES, how do the results compare with the design specifications?]
2- No
3- Don't know

*For Habitat – **Riparian Habitat** Only*

C-H3.1 What were the primary purposes of the project?

1- In-stream shading
2- Large woody debris (LWD) recruitment
3- Bank stability
4- Spawning/rearing habitat protection
5- Increase organic/insect inputs
6- Other: (specify) _____

C-H3.2 What type of plantings were used?

1- Seeds
2- Seedlings
3- Willow stakes (watlings)
4- Container plants
5- Mature plants
6- Other: (specify) _____

C-H3.3 What percent of plantings survived the first year? ___ The second year? ___

C-H3.4 Were additional plantings necessary?

1- Yes
2- No
3- Don't know

C-H3.5 Were temporary erosion control measures necessary?

1- Yes
2- No
3- Don't know

*For Habitat – **In-stream Diversion** Only*

C-H4.1 Was there a reduction in water diverted as a result of the project?

1- Yes
2- No
3- Don't know
4- Not applicable

C-H4.2 How effective is the screen in preventing fish from entering ditch?

1- 100%
2- More than 75%
3- 25% to 75%
4- Less than 25%
5- Not applicable

C-H4.3 How long do fish take to return to channel from screen location?

C-H4.4 About how much annual O&M costs are being incurred?

C-H4.5 Are there site-specific features of the design that could be improved?

1- Yes [If YES, specify: _____]
2- No
3- Don't know

*For Habitat – **In-stream Habitat** Only*

C-H5.1 What was the primary purpose of project?

1- Habitat creation
2- Bank protection
3- Sediment transport modification
4- Other: (specify) _____

C-H5.2 If spawning gravel-related:

a. Why was gravel in short supply initially? (Natural geology; removal of in-stream wood/downcutting; dam upstream; gravel mining upstream/locally; increased frequency/duration of peak flows; streambank hardening; other modification of upstream sources)
b. How much gravel was added? Cubic yards? Square Feet?
c. How much has remained within reach and provides habitat?
d. Has gravel shifted around in the reach?
e. Was scour and fill measured? How? (scour monitors; cross-section survey; topographic survey; visual observation)
f. Does more gravel need to be added? What fraction of original amount?
g. How many spawning seasons between implementation and first use by fish? (0 = first fall/winter/spring (i.e., within a few months usually) after implementation, 1 = second fall/winter/spring (following year), etc.)
h. (If applicable) Has use increased in successive seasons?
i. Has use been redirected from other spawning locations?
j. Have fry been observed? Have numbers been quantified?
k. Has there been any siltation of placed gravels that might be considered excessive?

C-H5.3 If bank erosion-related:

a. Intended to protect spawning or rearing habitat downstream?
b. Was treatment location a primary/significant or secondary/cumulative source of fine sediments?
c. Has bank erosion begun in nearby, non-treated location?

C-H5.4 If adult holding habitat creation-related:

a. Was habitat in short supply initially?
b. Was initial existing habitat associated with risks? Poaching; over-crowding; too far from spawning habitat; poor water quality (temperature)
c. Have adults been redistributed successfully?
d. Was there an increase in numbers of redds in reach associated project?

C-H5.5 If juvenile rearing habitat creation-related:

a. Was habitat in short supply initially?
b. Was predation an issue? How much?
c. Has juvenile use been observed? If yes:
    i. Have densities increased overall? Or,
    ii. Have juveniles mostly redistributed from poorer quality habitat to the new habitat

*For Habitat – **Upland Habitat** Only*

C-H6.1 What was primary purpose of upland habitat modification?

1- Fine sediment abatement
2- Wetland creation/enhancement/restoration
3- Stream shading
4- Large woody debris (LWD) recruitment source
5- Creation/enhancement/restoration
6- Stormwater runoff control
7- Other: (specify) _____

C-H6.2 If fine sediment abatement-related:

a. Intended to protect spawning or rearing habitat downstream?
b. Intended to control primary/significant or secondary/cumulative source of fine sediments?
c. Have other sediment sources become important since project completion?
d. (If applicable) Have re-vegetation measures worked? How well?

*For Habitat – **Estuarine/Marine Nearshore** Only*

C-H7.1 What was the primary habitat of interest?

1- Intertidal beach
2- Intertidal mudflat
3- Feeder bluff/longshore transport
4- Macroalgae
5- Eel grass
6- Emergent marsh
7- Rocky shore
8- Nearshore riparian
9- Intertidal channels
10- Estuary
11- Other: (specify) _____

C-H7.2 Was monitoring conducted prior to project construction?

1- Yes
2- No

C-H7.3 [If YES in C-H7.2] What monitoring methods were used?

1- Fish sampling (e.g., beach, purse seine, trawl net, trapping)
2- Visual observation (e.g., diving, bird census)
3- Plant density/survival sampling
4- Epibenthic sampling (e.g., core sampling)
5- Infauna sampling (e.g., core sampling)
6- Ground survey (e.g., beach surface cross-sectional elevation profile)
7- Community composition sampling (e.g., using community indices).
8- Other: (specify) _____

C-H7.4 What were the primary goals for habitat functions?

1- Salmonid prey production (from upland, marsh, or mud)
2- Fish access to intertidal areas (for feeding, spawning, or refuge)
3- Riparian functions (e.g., shading/organic inputs)
4- Stable substrate (e.g., beach composition for forage fish spawning)
5- Submerged vegetation structure (e.g., algal/eel grass nearshore subtidal foraging/refuge)
6- Emergent vegetation structure (e.g., emergent marsh organic inputs/refuge)

C-H7.5 What monitoring methods were used to evaluate progress towards those goals?

1- Fish sampling (e.g., beach, purse seine, trawl net, trapping)
2- Visual observation (e.g., diving, bird census)
3- Plant density/survival sampling
4- Epibenthic sampling (e.g., core sampling)
5- Infauna sampling (e.g., core sampling)
6- Ground survey (e.g., beach surface cross-sectional elevation profile)
7- Community composition sampling (e.g., using community indices).
8- Other: (specify) _____

C-H7.6 What were the target organisms of interest?

1- Salmonids
2- Forage fish (e.g., herring, sand lance, surf smelt)
3- Mixed fish community
4- Birds
5- Epibenthic or benthic invertebrates
6- Demersal fish
7- Shellfish
8- Other: (specify) _____

C-H7.7 What was the primary restoration technique used?

1- Beach nourishment
2- Bulkhead removal
3- Dike breaching/removal
4- Eel grass bed reestablishment
5- Kelp forest reestablishment
6- Landfill removal
7- Plant removal/control
8- Riparian plant installation
9- Shoreline restoration
10- Tidal channel reconstruction
11- Tide gate removal
12- Other: (specify) _____

D. Overall Project Feedback

D-1 In your opinion, how successful was the project?

D-2 [Not for Planning/Assessments] How would you characterize the quality of the habitat that the project protected or restored?

1- Poor
2- Fair
3- Good
4- Excellent

D-3 [If NO to C-1] How closely were the project's design specifications met? (e.g., did the trees live, woody debris or gravel remain in place, new erosion occur?) **How do you know? How did you determine whether the project was successful?**

D-4 Did the work product meet your expectations?

1- Yes [If YES, how so?]
2- No [If NO, why not?]

D-5 What elements of the project were particularly successful? [This question refers especially to physical elements such as planting techniques]

D-6 What were the keys to success? [This question refers more to other factors such as volunteers, a well-coordinated team, or a good contractor.]

D-7 What difficulties did you encounter in design and implementation of the project?

D-8 What lessons did you learn from the project that would be helpful to future project applicants?

D-9 Do you have any final comments that you would like to share with the SRF Board?

Thank you very much for your time and willingness to participate in this survey. We greatly appreciate your help.

APPENDIX B: SURVEY RESULTS

Survey Results

This appendix presents the survey results for each question, in the same order that they appear in the survey instrument. In general, unless otherwise noted, all "n" values cited are the number of respondents that answered the question. In addition, as discussed in Sections 2.0 and 5.0 in the report body, findings that summarize results across multiple project types (such as all projects or all habitat projects) have been weighted to reflect each project type's proportion of the total number of completed projects in the combined categories (e.g., 260 for all projects or 163 for habitat projects).

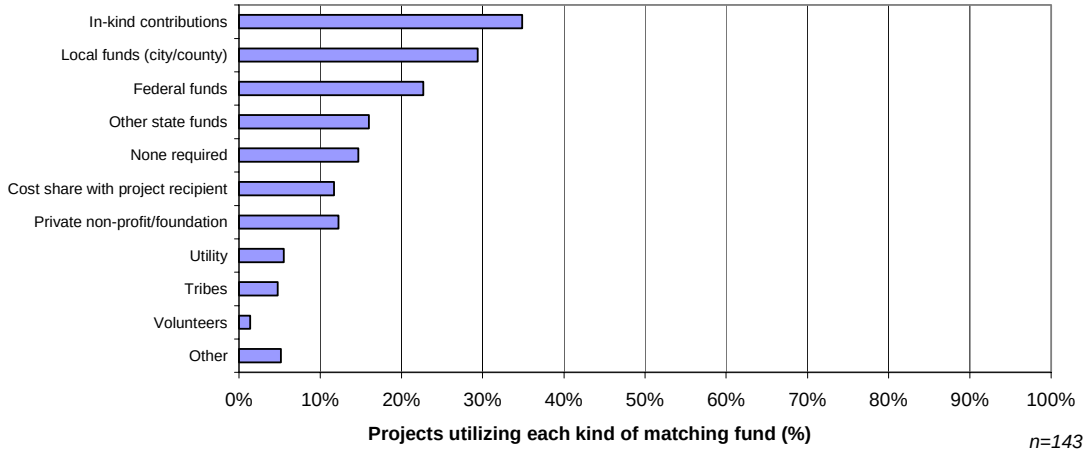
A. INTRODUCTION & GENERAL BACKGROUND

Please note that questions A-1 through A-4 were designed only to verify the information in our database. No results for these questions are provided here. Results begin instead with question A-5, below.

A-5 Which target species was your project designed to help? (Multiple responses permitted)

	Overall (Weighted)	Acquisition	Assessments and studies	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Steelhead trout	71%	71%	64%	100%	100%	75%	62%	68%	90%
Chinook salmon	62%	90%	76%	100%	89%	65%	19%	58%	70%
Coho salmon	61%	86%	60%	100%	5%	65%	65%	79%	40%
Chum salmon	44%	48%	56%	67%	5%	50%	42%	42%	10%
Coastal cutthroat trout	41%	67%	36%	100%	5%	40%	38%	63%	30%
Bull trout	34%	29%	48%	67%	89%	25%	8%	16%	40%
Pink salmon	15%	43%	24%	33%	5%	15%	0%	5%	10%
Sockeye salmon	13%	52%	20%	33%	0%	10%	4%	0%	10%
Resident cutthroat trout	9%	0%	0%	0%	5%	5%	23%	21%	0%
Rainbow trout	4%	0%	0%	0%	5%	5%	12%	0%	0%
All resident fish	3%	0%	0%	0%	16%	5%	4%	0%	0%
Kokanee	2%	19%	0%	0%	0%	0%	0%	0%	0%
Dolly Varden	1%	0%	0%	0%	0%	0%	0%	0%	20%
Char	0%	5%	0%	0%	0%	0%	0%	0%	0%
Various Other	6%	0%	4%	0%	0%	5%	12%	11%	0%
n=	*143*	*21*	*25*	*3*	*19*	*20*	*26*	*19*	*10*

A-6 What was the source of your matching funds? (Weighted results—multiple responses permitted)



B. PROJECT OVERVIEW

B-1 In a few keywords, what were the original project objectives?

The primary reasons for asking about project objectives were to familiarize the interviewer with the project and to determine whether the project met the objectives. This analysis is presented under B-3, below.

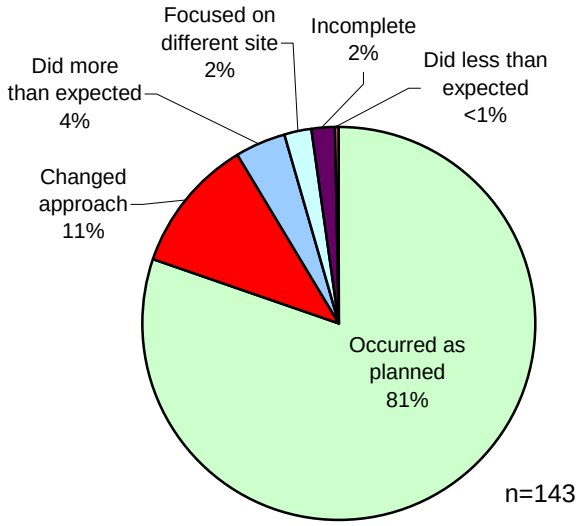
B-2 What actually occurred?

See chart under B-3, below.

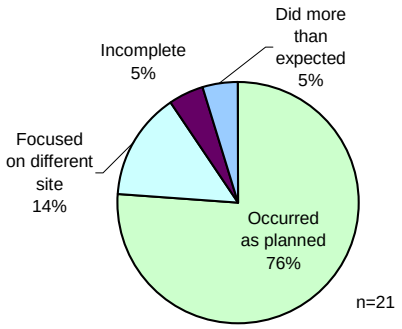
B-3 Clarify any key differences from the original proposal.

Note: The following charts display the consultants' analysis of the responses to the first three questions.

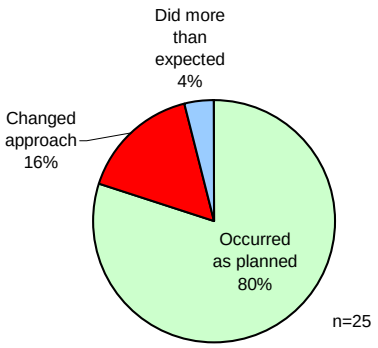
Overall (Weighted results)



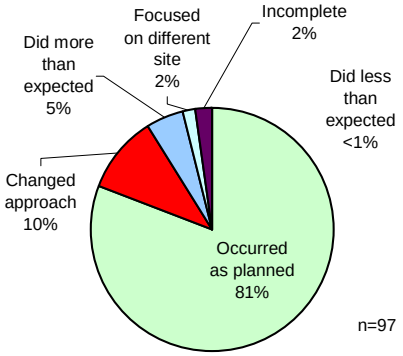
Acquisitions



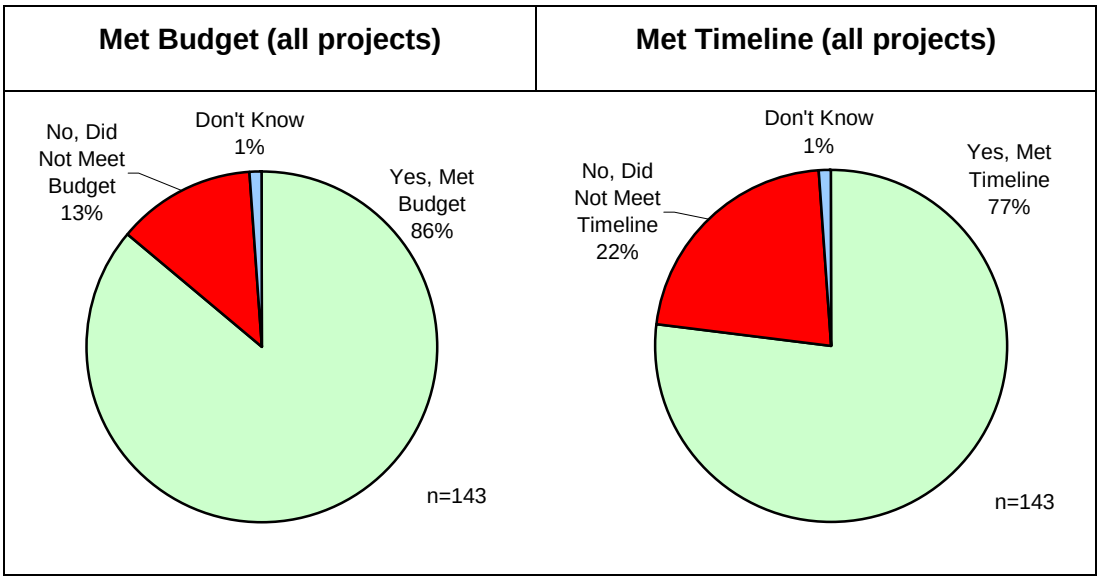
Assessments



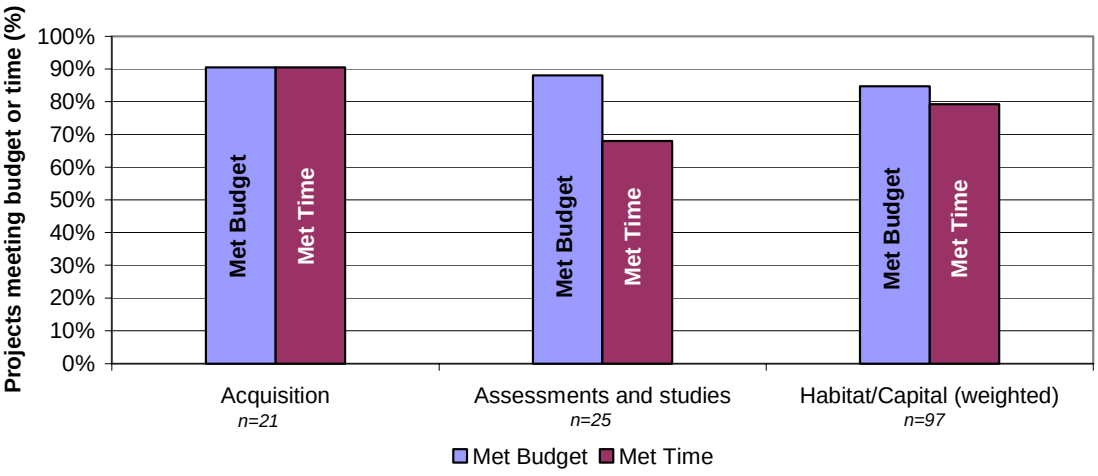
Habitat/Capital (weighted)



B-4 Was the project completed within the original proposed timeframe and budget? (Weighted results)



Budget and timeframe information is presented in the following chart according to project category.



B-5 [If NO in B-4] Please briefly explain why the project did not meet its proposed schedule and/or budget.

	Acquisition	Assessments and Studies	Habitat/Capital
Top reasons cited for not meeting budget	▪ Seller-related reasons	▪ Scoping	▪ Underestimated costs ▪ Permitting
Top reasons cited for not meeting timeline	▪ Seller-related reasons	▪ Staffing difficulties ▪ Scoping ▪ Data availability	▪ Permitting ▪ Seasonal window for activity ▪ Staffing

B-6 Approximately how much habitat (acreage, stream length) did the project protect, restore, or assess? (e.g., miles of stream restored, miles of riparian planted, acres acquired – if details not known, try to get ballpark information regarding scale)

Responses given were in many different units and with varying degrees of precision and certainty. The three estuarine projects cited 500 acres, 50 acres, and 5 acres. Responses for other project types are summarized below.

Project Type	Mean length	Mean area
Acquisitions	5,000 ft of stream (4 responses)	115 acres (19 responses)
In-stream habitat	3,800 ft of stream (17 responses)	11 acres (4 responses)
Riparian habitat	4,000 ft of stream (12 responses)	13 acres (11 responses)
In-stream passage	4 miles of stream (18 responses)[1]	N/A
Upland habitat	6 miles of road (4 responses)[2]	800 acres (4 responses)[3]

Responses for assessments and in-stream diversions were not easily standardized, and so the unedited responses are simply listed in their entirety below.

Project Type	Response to Question B-6
In-stream diversions	1/4 mile
In-stream diversions	20 miles
In-stream diversions	About 300 lineal feet on both sides of the stream.
In-stream diversions	Approximately 2 miles
In-stream diversions	Approximately 7 miles

[1] This is the amount of stream that was opened up for access.
[2] These projects were generally sediment and stormwater control projects in forest land.
[3] These projects were generally no-till projects on agricultural land. Note that one project instituted conservation practices on 2800 acres, which brings the average up considerably. The *median* area is 200 acres.

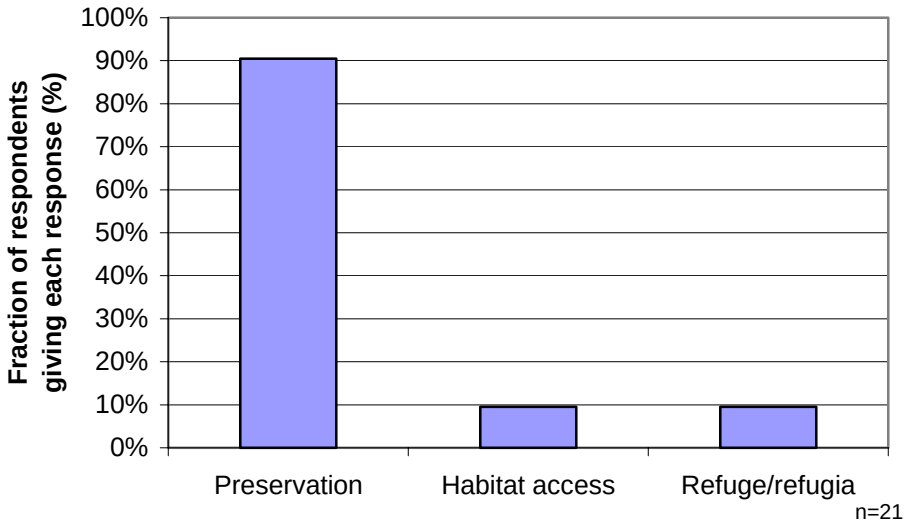
Project Type	Response to Question B-6
In-stream diversions	By reducing diversion, impact habitat less. Given that this was a small part of the larger project, it's difficult to estimate the total habitat that this particular project restored. Flow has increased in the river.
In-stream diversions	By reducing diversion, impacting habitat less. Given that this was a small part of the larger project, it's difficult to estimate the total habitat that this particular project restored. Flow has increased in the river.
In-stream diversions	Didn't restore any; just to keep fish from being washed down into a dead end lake
In-stream diversions	Don't know
In-stream diversions	Don't know
In-stream diversions	Roughly 6-8 screening projects, protected fish along 15 miles of stream length
In-stream diversions	Screens don't necessarily restore habitat. The distance between the headgate and the stream was about ¼ mile. (You might consider this distance "restored.")
In-stream diversions	Screens don't necessarily restore habitat. The distance between the headgate and the stream was about 200 feet. (You might consider this distance "restored.")
In-stream diversions	Screens don't necessarily restore habitat. The distance between the headgate and the stream was about 500 feet. (You might consider this distance "restored.")
In-stream diversions	Screens don't necessarily restore habitat. The distance between the headgate and the stream was about 500 feet. (You might consider this distance "restored.")
In-stream diversions	Several miles for bulltrout and steelhead upstream, probably in application
In-stream diversions	The portion of the river and it's channels: 11 miles.
In-stream diversions	This project, combined with another ditch project, and culvert replacement project, should make all suitable habitat portions of the creek available.
In-stream diversions	This project, combined with another ditch project, and culvert replacement project, should make all suitable habitat portions of the creek available.

Project Type	Response to question B-6
Assessments and studies	0.75 mile linear off-channel habitat. Oxbow ponds and riparian area adjacent, probably 60-80 acres.
Assessments and studies	1,850 square miles
Assessments and studies	13-mile stretch of stream with 32 cross-sections
Assessments and studies	22.86 miles of river assessed.
Assessments and studies	30 sites, 34 miles of shoreline
Assessments and studies	4 LEs: 7 WRIAS
Assessments and studies	700 square miles
Assessments and studies	9 sites, did some tributaries where ESA stocks are
Assessments and studies	A number of culvert projects, don't remember how many specifically, maybe a half dozen? Generally smaller streams so not huge amounts of habitat for each passage.

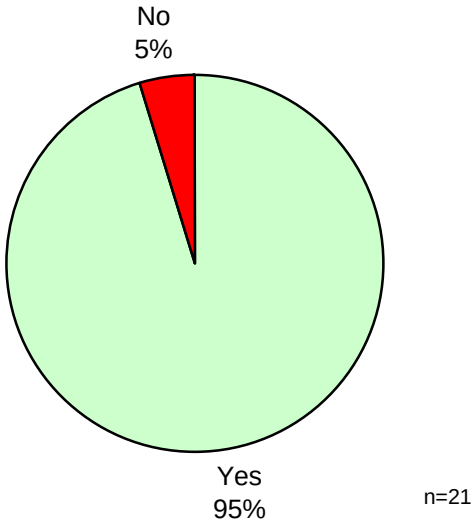
Project Type	Response to question B-6
Assessments and studies	about 2 kilometers along the stream bank
Assessments and studies	About one mile.
Assessments and studies	All areas in the Estuary that were accessible to salmon
Assessments and studies	All of one County and a portion of the next
Assessments and studies	All of the County
Assessments and studies	All of the WRIA
Assessments and studies	All of the WRIA
Assessments and studies	Conditions in a three-county area
Assessments and studies	Don't know.
Assessments and studies	Entire FRB area
Assessments and studies	Monitored 15,335 trees on 7 sites scattered throughout the watershed.
Assessments and studies	None.
Assessments and studies	Program is on-going, will use equipment to mark fish over at least 15 years. Probably using at about 50 hatcheries across the state.
Assessments and studies	Whole treaty Area
Assessments and studies	Whole watershed

FOR ACQUISITION PROJECTS ONLY (A)

B-A1 What was the purpose of the acquisition? (Multiple responses permitted)



B-A2 Was the acquisition based on an assessment?

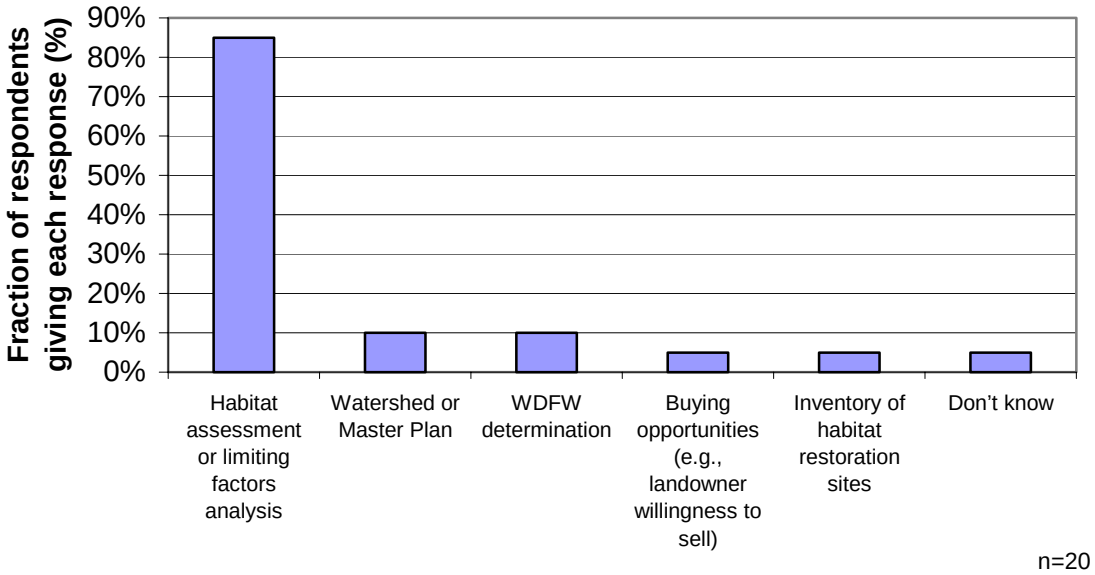


Types of Assessments Used:

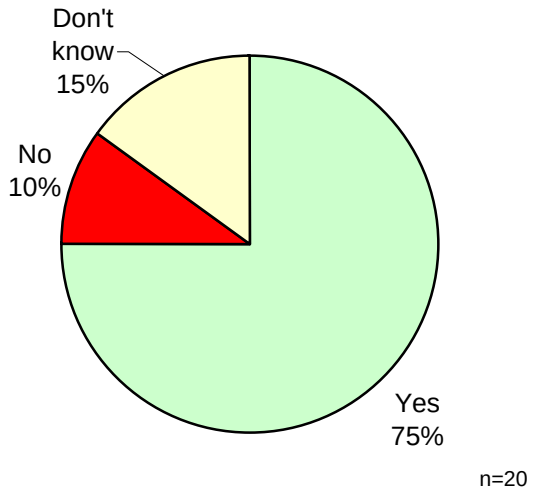
- About 80% of the acquisitions were based on a habitat assessment or limiting factors analysis

Of the acquisitions that were based on assessments, 75% were reportedly based on assessments that included prioritized actions for the watershed. Anecdotally, the exact parcels being acquired generally were not specifically designated as prioritized actions for the watershed. However, the parcels acquired generally did lie within larger areas that had been designated by the assessment as priorities. Furthermore, most project managers indicated that the parcel of land actually acquired was somewhat different than the originally intended parcel. In some cases the parcel grew in size (because of unanticipated events such as landowner donations), whereas in others an entirely different parcel was purchased (generally due to higher than expected land value).

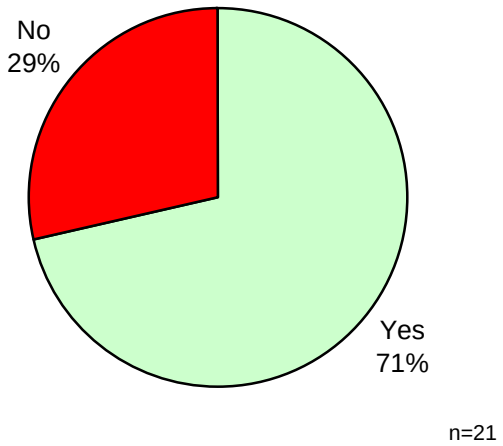
B-A3 [If YES in B-A2] What type of assessment? (Multiple responses permitted)



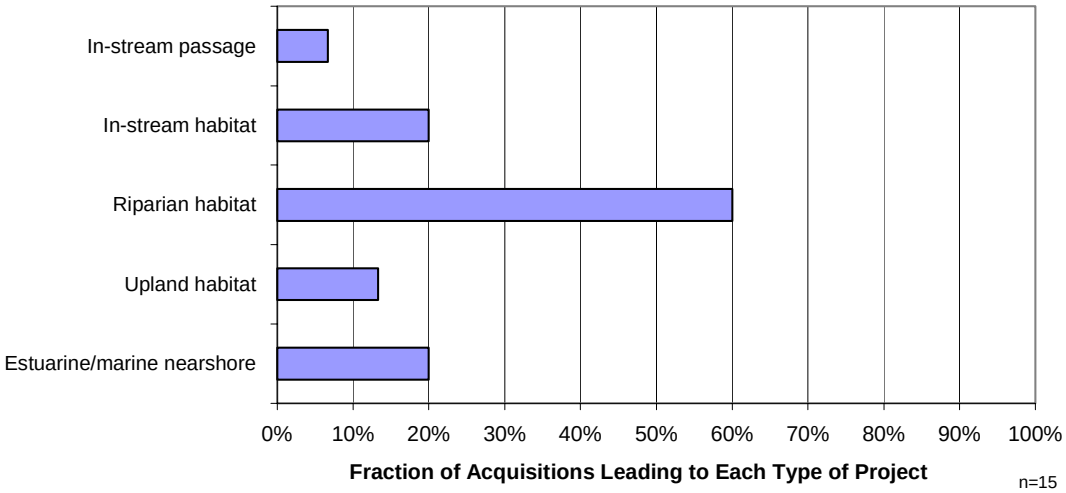
B-A4 [If YES in B-A2] Did the assessment include prioritized actions for the watershed?



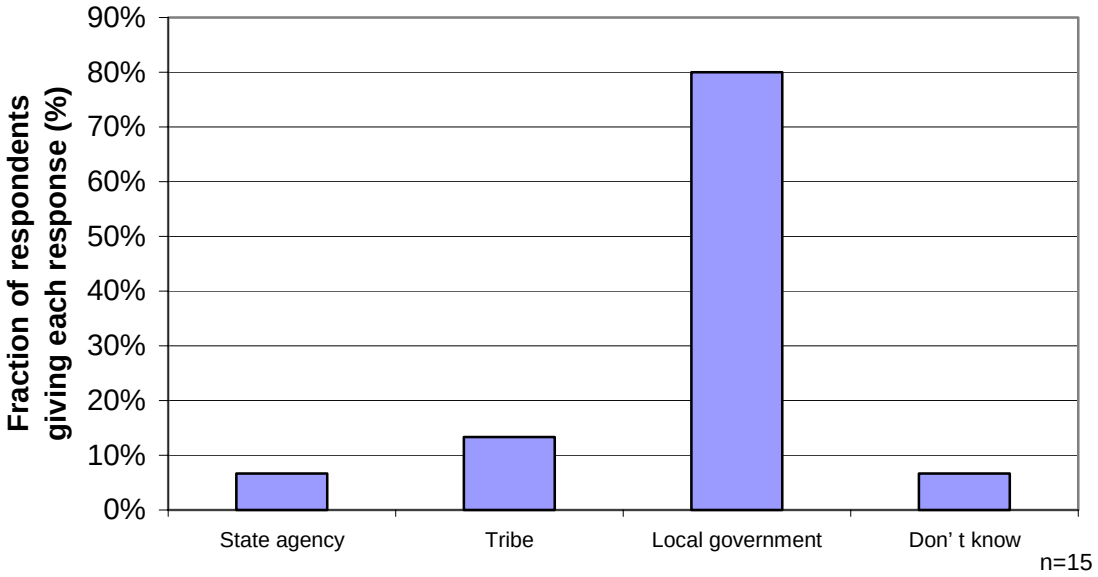
B-A5 Are any capital or O&M (operations and maintenance) projects planned or underway for the site?



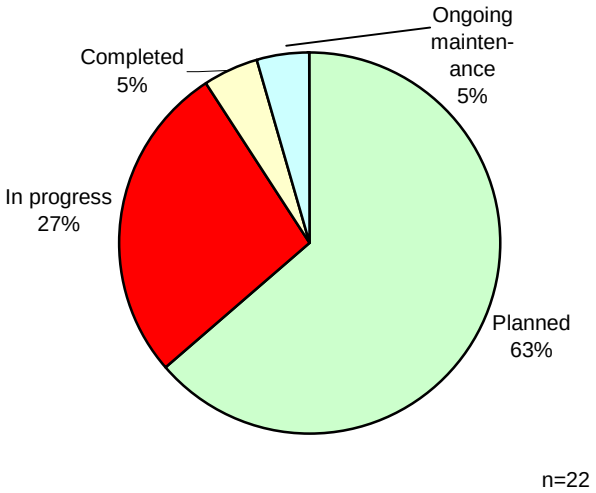
B-A6 [If YES in B-A4] What type of project(s) are planned or underway? (Multiple responses permitted)



B-A7 [If YES in B-A4] Who is responsible for implementing the project(s)? (Multiple responses permitted)



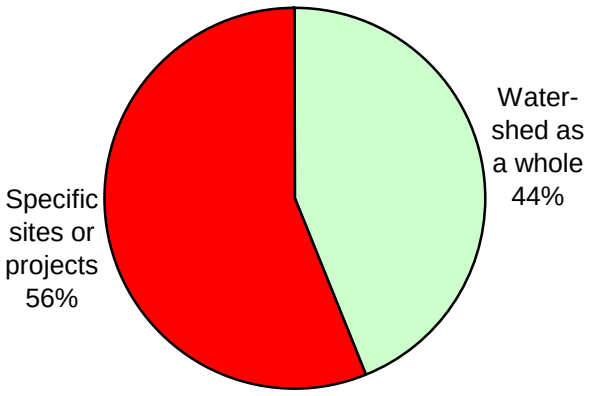
B-A8 [If YES in B-A4] What is the current status of the project(s)?[4]



[4] The "n" in this particular chart is not the number of respondents but the total number of projects planned or underway in the acquisition. Fifteen respondents answered this question.

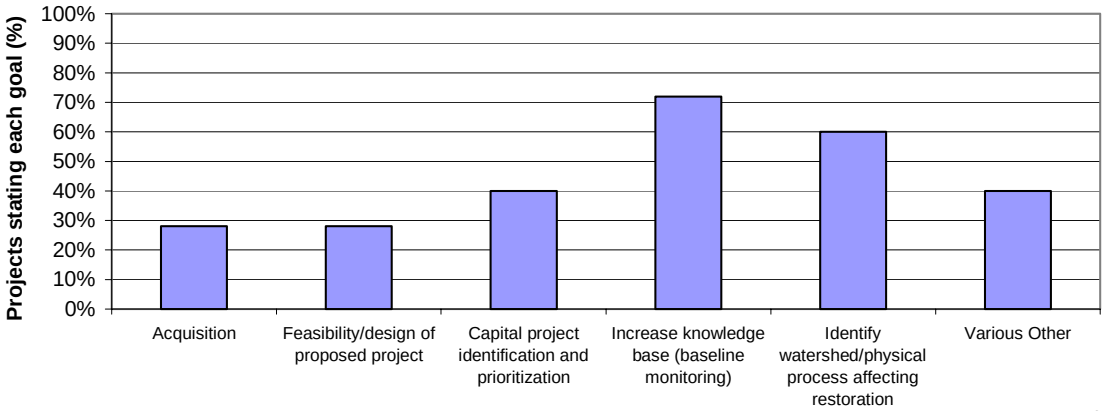
FOR PLANNING/ASSESSMENTS ONLY (P)

B-P1 Did the assessment cover the watershed as a whole or did it focus on specific sites or projects?



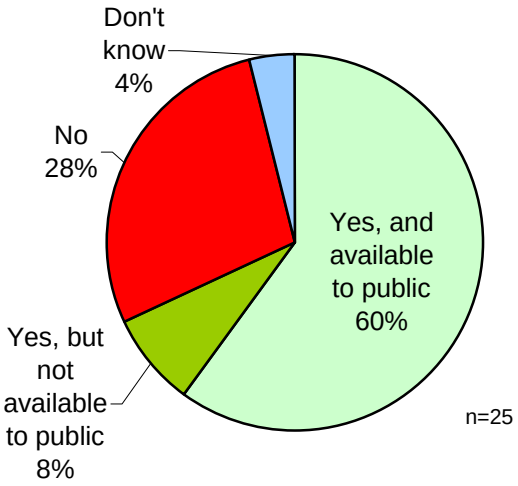
n=25

B-P2 What were the primary goals of the assessment? (Multiple responses permitted)

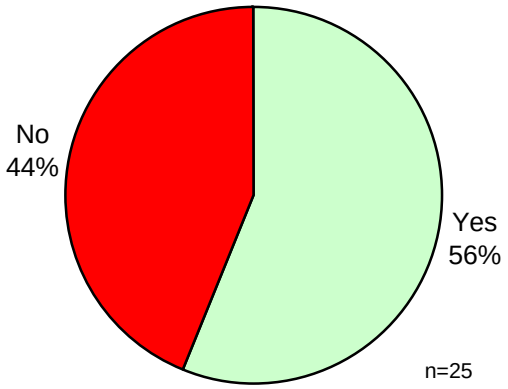


n=25

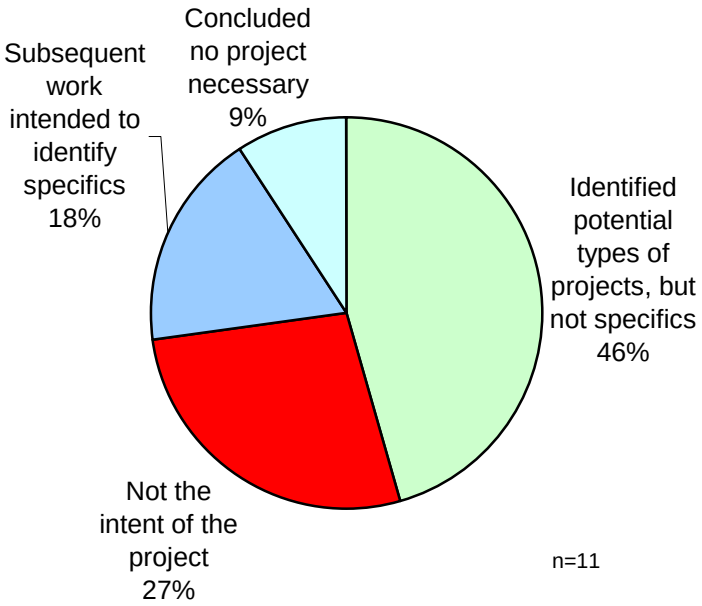
B-P3 Was a report completed?



B-P4 Did the assessment lead to identification of specific projects?

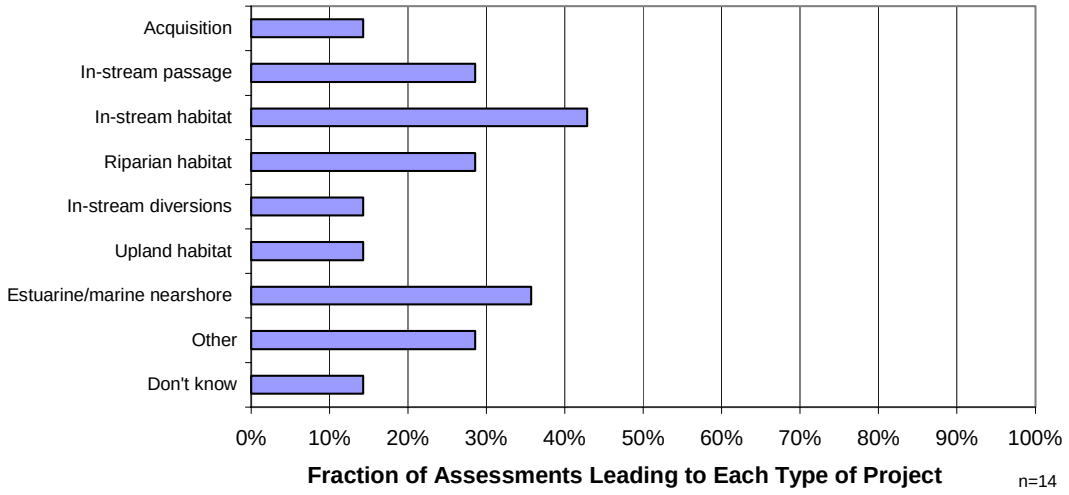


Assessments that did not identify specific projects cited a variety of reasons for not doing so, as shown in the following chart.

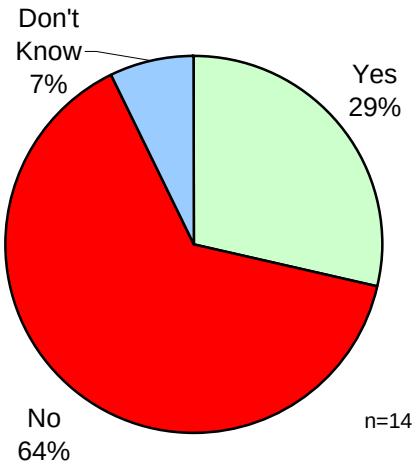


B-P5 [If YES in B-P4] List numbers of projects by type. (Multiple responses permitted)

The following chart displays the fraction of respondents who cited *any* number of each type of project. Due to large number of vague responses (such as "several," "lots," and "hundreds"), compiling the total number of projects of each type was not feasible.

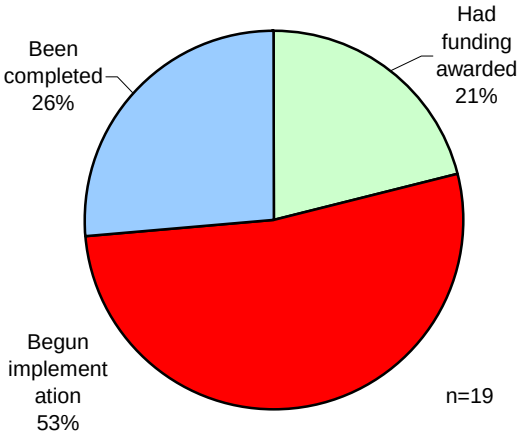


B-P6 [If YES in B-P4] Did the assessment identify project feasibility, expected costs, and next steps for implementation?



B-P7 [If YES in B-P4] How many projects have reached the following steps? [5]

The following chart depicts the fraction of the projects that resulted from the assessments that have reached the following stages. However, some respondents were not able to give precise numbers. In particular, one respondent sited "several" for both projects that have been completed and for projects that have had funding awarded. Therefore, the fractions of projects that have been completed or that have had funding awarded are likely underestimated in the chart below.

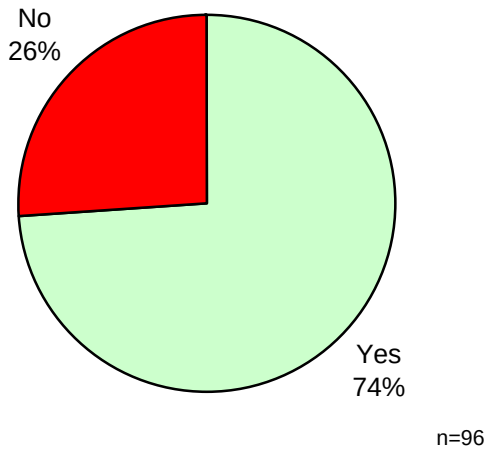


[5] The "n" in this chart is not the number of respondents but the total number of projects planned or underway as a result of the assessment. Twelve respondents answered this question.

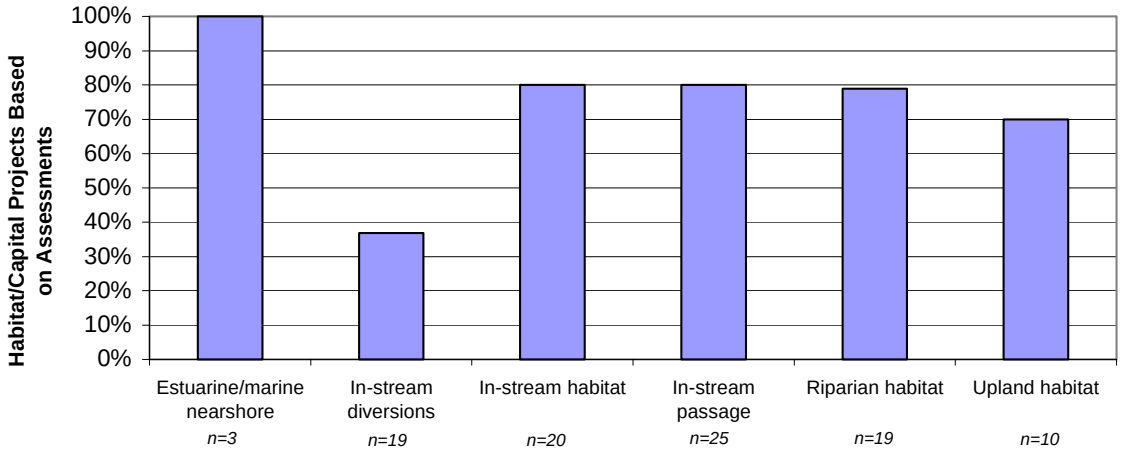
FOR HABITAT PROJECTS ONLY (H)

B-H1 Was the project based on an assessment?

All Habitat/Capital Projects (Weighted results)



By Project Type



B-H2 Who planned and designed the project? (Multiple responses permitted)

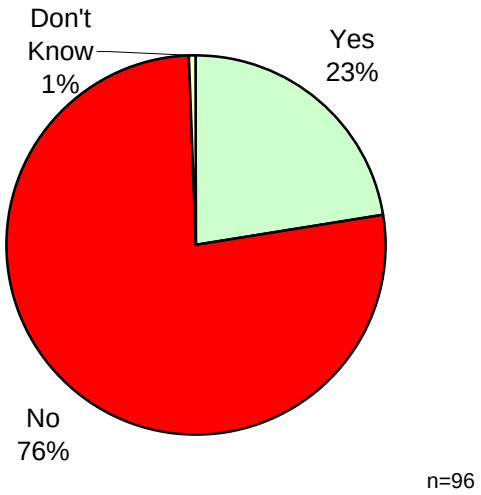
	All Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Project Manager's staff	**65%**	33%	89%	50%	72%	74%	30%
Consultant/Contractor	**41%**	67%	26%	45%	56%	32%	0%
Other agency	**31%**	67%	32%	40%	8%	37%	80%
Project Manager	**18%**	0%	0%	10%	24%	16%	50%
Project recipient (such as a landowner)	**7%**	0%	11%	0%	8%	11%	10%
Other	**1%**	0%	0%	5%	0%	0%	0%
n=	***96***	*3*	*19*	*20*	*25*	*19*	*10*

B-H3 Who implemented the project (e.g., construction, plantings)? (Multiple responses permitted)

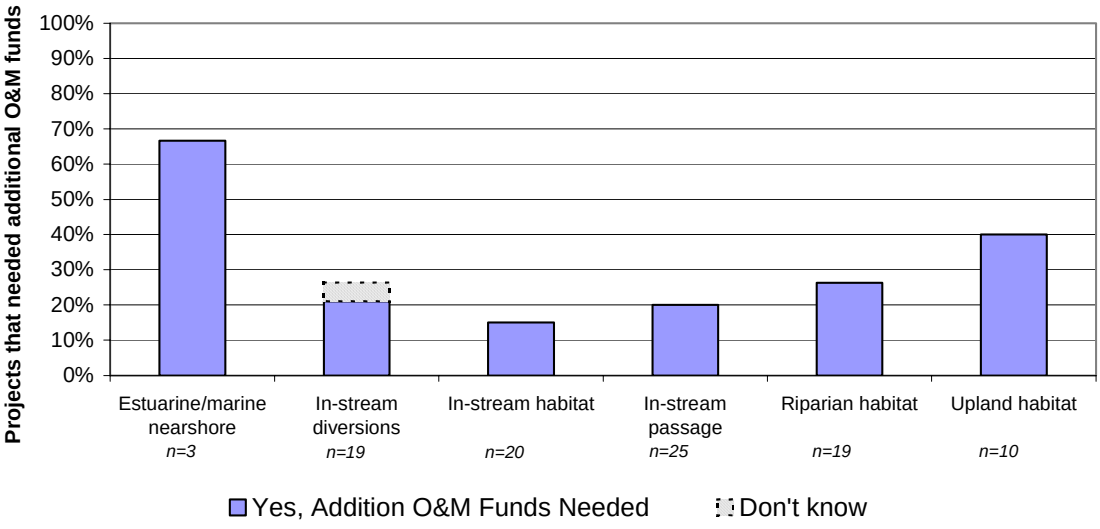
	All Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Project Manager's staff	**55%**	0%	79%	45%	72%	42%	20%
Consultant/Contractor	**49%**	67%	32%	55%	44%	58%	50%
Other agency	**16%**	33%	5%	25%	4%	16%	50%
Project Manager	**11%**	0%	0%	15%	12%	16%	10%
Project recipient (such as a landowner)	**11%**	0%	32%	5%	4%	0%	50%
Volunteers	**4%**	0%	0%	5%	4%	5%	10%
Other	**2%**	0%	0%	0%	0%	5%	10%
Don't know	**1%**	0%	0%	0%	0%	5%	0%
n=	**96**	3	19	20	25	19	10

B-H4 Were additional funds needed for operation and maintenance (O&M) after the project was completed?

All Habitat/Capital Projects (Weighted results)

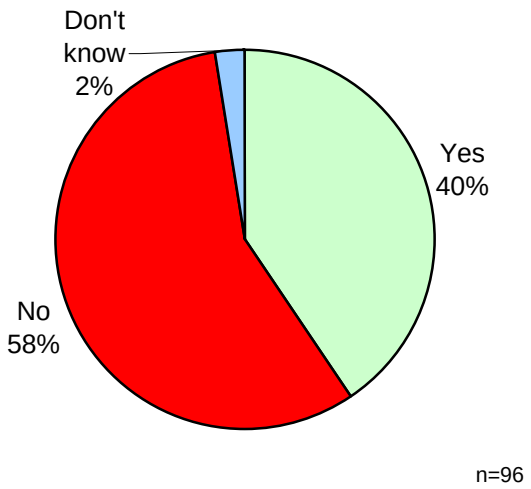


By Project Type

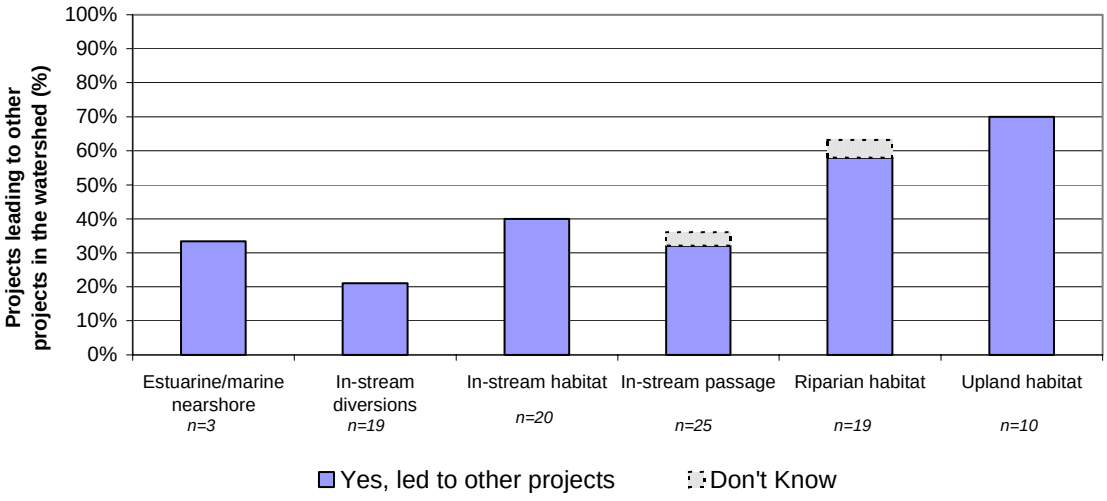


B-H5 Did this project lead to other projects in the watershed?

All Habitat/Capital Projects (Weighted results)



By Project Type



B-H6 [If YES in B-H5] What type(s) of other projects did the project lead to? (Multiple responses permitted)

		Original Projects						
		All Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Resulting New Projects	Acquisition	3%	0%	0%	13%	0%	0%	0%
	Estuarine/marine nearshore	5%	100%	0%	13%	0%	0%	0%
	In-stream diversions	8%	0%	25%	13%	0%	9%	0%
	In-stream habitat	44%	0%	50%	75%	25%	55%	14%
	In-stream passage	33%	0%	25%	25%	63%	9%	0%
	Riparian habitat	37%	0%	50%	38%	13%	91%	0%
	Upland habitat	14%	0%	0%	13%	0%	18%	100%
	Other	15%	0%	25%	13%	25%	0%	0%
	Don't know	3%	0%	25%	0%	0%	0%	0%
	n=	***39***	*1*	*4*	*8*	*8*	*11*	*7*

C. MONITORING OF PROJECT RESULTS

FOR PLANNING/ASSESSMENTS ONLY

C-P1 In a few keywords, how is success measured? (e.g., miles of stream, barriers, or landowners surveyed)

This table shows the unedited responses to question C-P1. Due to the high variability, responses were not easily standardized.

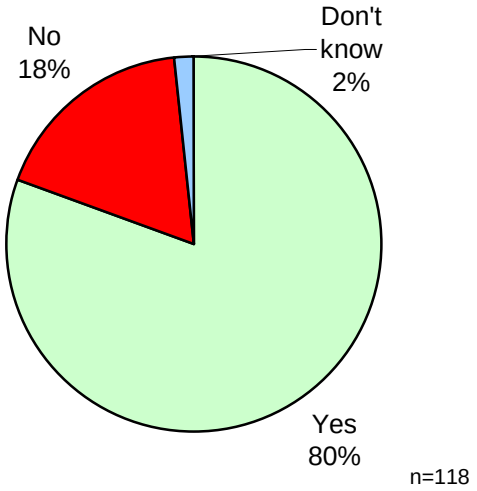
Responses to question C-P1
Accomplished the tasks they said they were going to do.
Adopted as part of Shoreline Master Program, overturned by Hearings Board. In court right now. Has potential for identification of restoration sites, but policies in it that address how to handle permit applications will have to be resolved by court process. Also use rankings of existing habitat when looking at shoreline environment designations, so that was useful.
Any investigation that leads to a fairly solid conclusion is a success. Just seeking to identify whether the bridge was an issue, and the study did that. Was conclusive.
Community involvement, collaborative efforts, media exposure, kids & elders buying into the process, recognizing treaty rights.
Enhanced tree survival and landowner involvement.
Expectation was that local LE would embrace it and take off running with it, but they didn't. Biggest concern is that it will result in nothing being done. We were successful in identifying refugia, and developed a model for them to use. But the LE has no funding or capability to do that. No long-term planning in terms of follow-on. Very frustrating for them as well.
Fish passage
Gave us a baseline to move forward on.
Helped the lead entity and stakeholders to learn to communicate with each other. Really helped get people to understand where each other were coming from.
If they had two robust working committees, submitted a project list, and had projects funded.
Increased level of interest in protecting critical areas through acquisition or conservation easements. And we've increased the number of acquisitions and conservation easements. Adopted by County Commissioners and the Planning Commission.
Increased the knowledge base, set up a document database that is updated (sporadically) through the UW that allows everyone to have access to research, first attempt to take a broad look at an urban area and its challenges. Very different from other pristine areas. Also brought a lot of people together for the first time to start talking about these things.
Juvenile chinook were acclimated successfully. Sponsor was able to accomplish project with lots of volunteers, so were able to involve the community directly.
Made progress on local watershed recovery plan.
Met all the goals and objectives as to what we thought it was going to do, how much it was going to cost to operate. And it's better for the fish.

Responses to question C-P1
Provided us with the template, and we've been continuing with it. Great use of the money in the sense that we've been able to put additional plans together based on it. It's in a format that someone could pick up and model after.
Robust working committees and a prioritized project list
Stakeholder buy-in, participation and support, ability of agencies to use the plan documents to guide future actions
Successfully laid the foundation for long-term salmon recovery plan in the basin. Plan that they're working on now comes directly out of this. Also successfully built a coalition for salmon recovery in the basin.
Summary reports provided guidance for subsequent planning efforts, built a higher level of collaboration between the County, the cities, and the tribes
The ability to develop the capacity within the tribe to develop projects and to make successful applications. And to provide active participation in the salmon recovery process.
Very pleased with the outcome of the study because it provided an objective and quantitative basis to evaluate the effects of the railroad on the stream.
We filled in those blanks, developed a methodology to identify and select priority sites based on habitat. Identified habitat features that were limiting production, giving us baseline data to come back to so we can assess trends with changes in land use.
Whether County staff had the expertise to provide good biological advice to policy makers.
Won't be known for years. Money was disbursed and utilized for the purposes given.

FOR ACQUISITION (A) AND HABITAT (H) PROJECTS ONLY

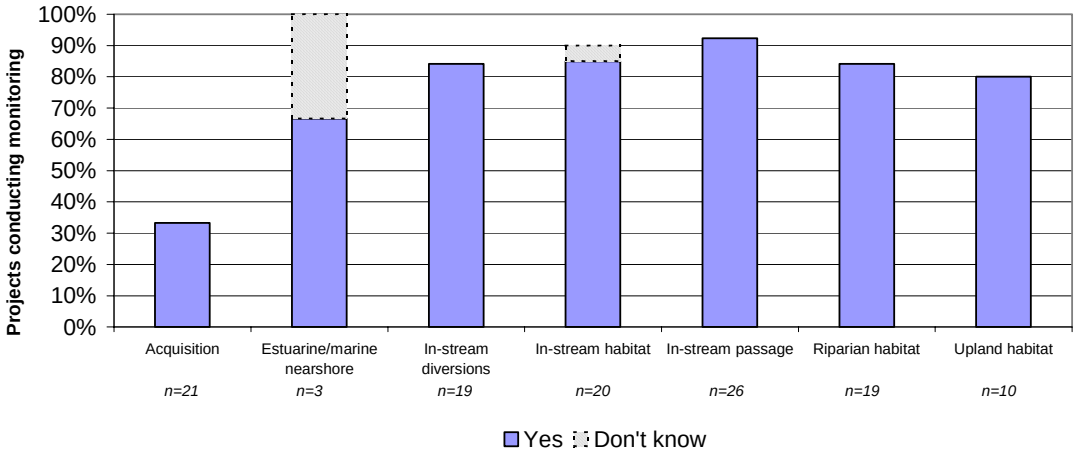
C-1 Has any monitoring of the project been conducted to date?

All Acquisition and Habitat Projects (Weighted results)



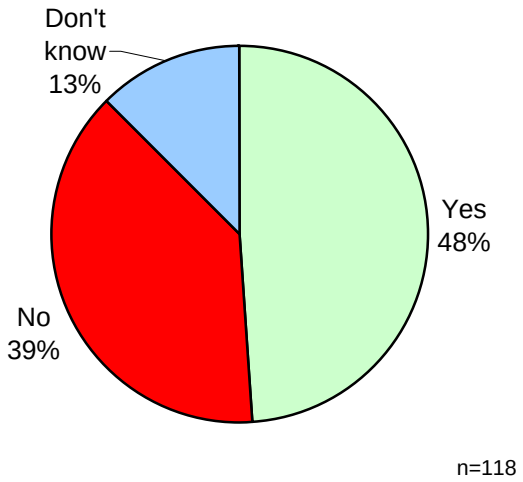
Please note that several respondents noted that they did not conduct monitoring because it was not required. Most of these respondents were involved in projects that were funded in 1999.

By Project Type

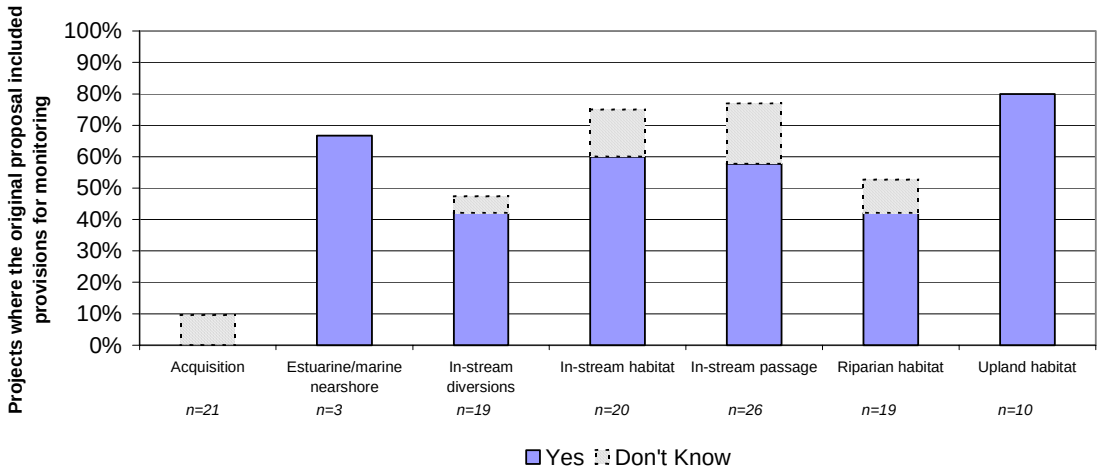


C-2 Did the original proposal include provisions for monitoring?

All Acquisition and Habitat Projects (Weighted results)



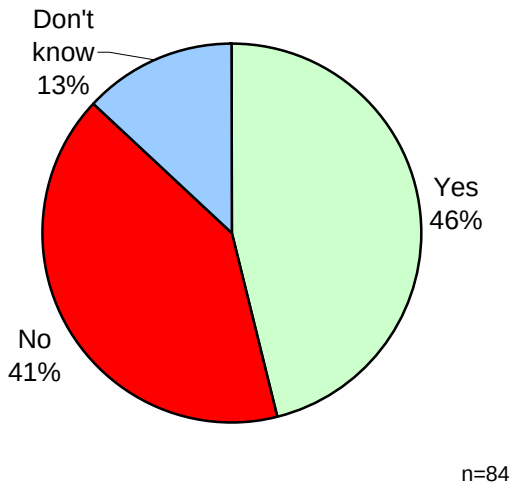
By Project Type



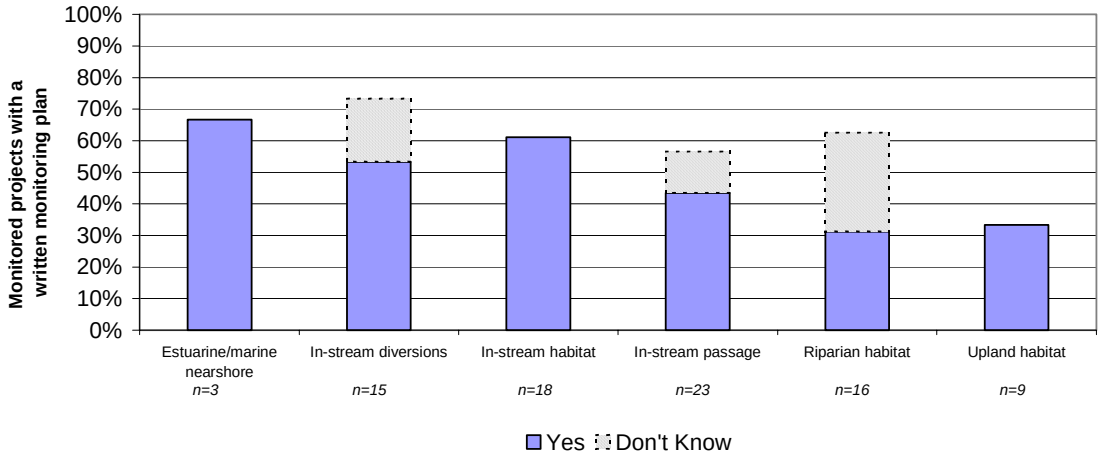
Please note that on most of the remainder of the monitoring questions, results will be presented only for the monitored habitat/capital projects, as the questions generally did not apply to the informal monitoring (such as walking the property to check for illegal dumping) conducted by most acquisition projects. Any findings presented for all habitat/capital projects (such as are typically presented in the pie charts) have been weighted to reflect each project type's proportion of the total number of completed projects that estimated to have conducted monitoring or had planned to do monitoring in their proposals (per responses to questions C-1 and C-2).

C-3 Has a monitoring plan been written?

All Monitored Habitat/Capital Projects (Weighted results)

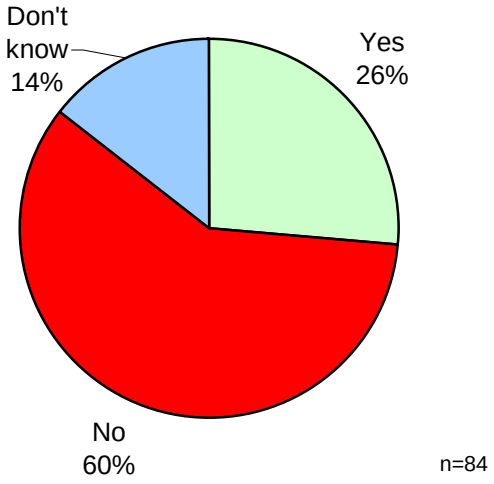


By Project Type

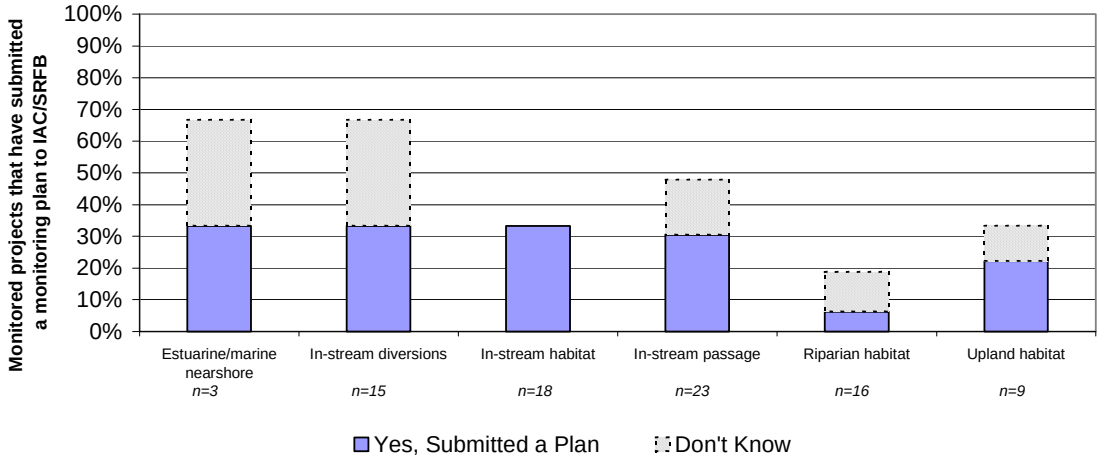


C-4 Has a monitoring plan been submitted to IAC/SRFB?

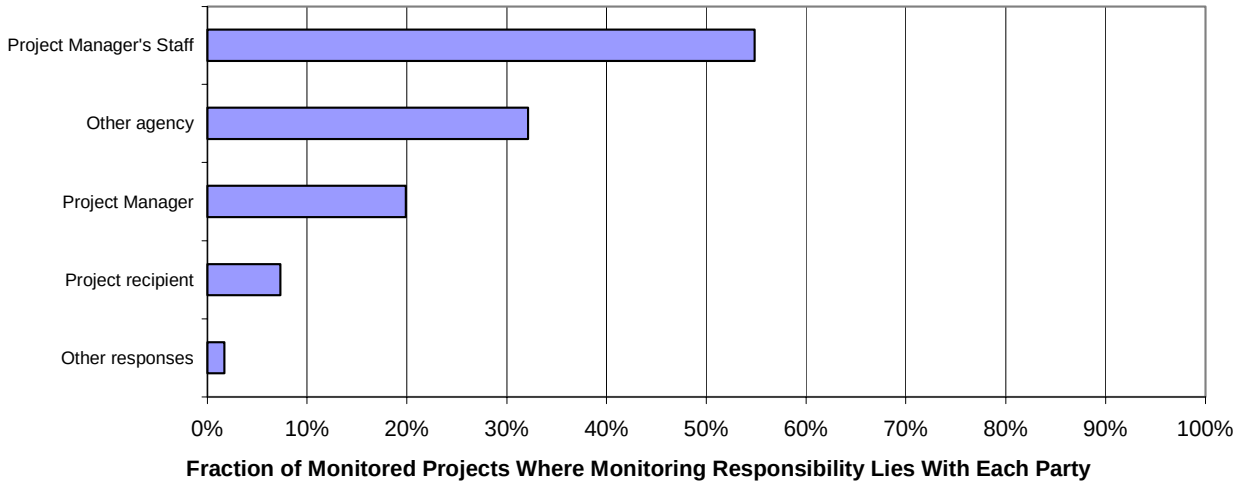
All Monitored Habitat/Capital Projects (Weighted results)



By Project Type

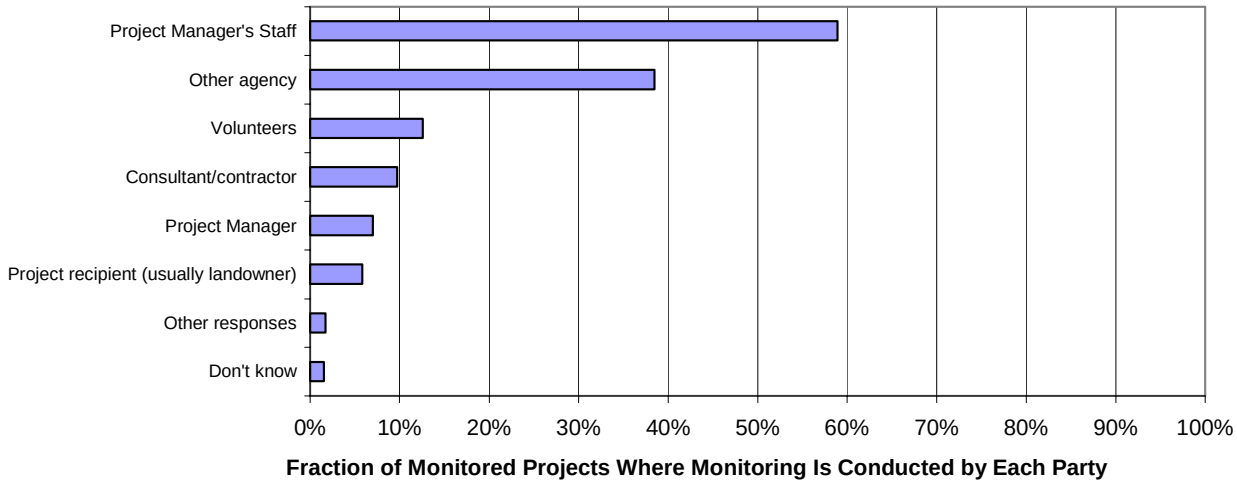


C-5 Who is assigned responsibility for completing the monitoring? (Weighted results – multiple responses permitted)



n=81

C-6 Who conducted the monitoring? (Weighted results – multiple responses permitted)



n=81

C-7 How much is the monitoring estimated to cost?

Project respondents often had a difficult time giving specific answers to this question. When responses were given, they were not easily standardized as they often were reported with varying units and levels of certainty. Following are all unedited responses given to question C-7.

Project Type	Response to question C-7
Acquisition	$200,000
Acquisition	The actual projection for monitoring is $20,000 per year for 10 years for the reconstructed stream channel and the same amount for the estuary. The land acquisition was estuarine, so the figure of $200,000 would be correct, but is only half of the overall project monitoring costs that we anticipate.
Estuarine/marine nearshore	$3200 per month x 4 months = $12,800 on-going annual funding occurs (approx 80% of funds needed for monitoring of 4K per month)
Estuarine/marine nearshore	100K per 7 years
In-stream diversions	$100-200/year
In-stream diversions	But funds come from State program
In-stream diversions	No additional costs. It's included in the State inspection program.
In-stream diversions	Part of exisiting program, 25-30K per year
In-stream diversions	Part of the larger program.
In-stream diversions	They continually do this as part of a larger monitoring program.
In-stream habitat	$20,000
In-stream habitat	$2500 per year
In-stream habitat	$5000 per 5 years
In-stream habitat	100K over 5 years
In-stream habitat	10k
In-stream habitat	15K over five years budgeted
In-stream habitat	1k per year
In-stream habitat	20K/yr
In-stream habitat	3 years-$10K for WQ and fish use, vegetation???
In-stream habitat	3K per year
In-stream habitat	5-10K for 5 year program
In-stream habitat	5K over 5 years
In-stream habitat	5K/year
In-stream habitat	All lumped into one big budget for all of their projects.
In-stream habitat	Approximately $10,000.

Project Type	Response to question C-7
In-stream habitat	Approximately $730,000 for 5 years
In-stream habitat	Don't know, part of ongoing monitoring of existing programs
In-stream habitat	Paid internally by Tribe
In-stream habitat	There wasn't plan so preplanned budget
In-stream passage	$100 per year
In-stream passage	$1000
In-stream passage	$1000/year
In-stream passage	$5000/project per year
In-stream passage	$5000/project per year
In-stream passage	$5000/year per project
In-stream passage	20 K pre, 10K post
In-stream passage	220K per year, monitoring/reintroduction package
In-stream passage	2k
In-stream passage	2k
In-stream passage	300-400 per year
In-stream passage	500/yr plus existing programs
In-stream passage	Existing programs
In-stream passage	Zero cost since it was in-kind. Approximately 30 man-hours per year.
In-stream passage	Minimal cost of visual monitoring (<$1000/yr)
In-stream passage	Not included in original project, 10,000/yr
In-stream passage	Overall 2-3K
In-stream passage	Routine staff maintenance time - minimal cost (<1000/yr)
In-stream passage	The monitoring related to this project is part of an entire watershed monitoring study, funds are not partioned out to the specific passage issue
In-stream passage	Wasn't figured in originally, squeezing out of original budget to monitor
Riparian habitat	$1000/year over 3-5 years
Riparian habitat	$1500 for monitoring and maintenance
Riparian habitat	2K per year
Riparian habitat	2K/yr
Riparian habitat	2K/yr
Riparian habitat	Cost share with WDOE. Total cost would be $800/year for the WCC persons time needed.
Riparian habitat	Likley was in-kind from the tribe
Riparian habitat	Part of existing program

Project Type	Response to question C-7
Riparian habitat	There isn't a break down, just 5k towards buying the plants
Riparian habitat	Volunteer work
Upland habitat	$27,000 for two years to wsu. Cost to conservation districts is minimal, basically just their time.
Upland habitat	A couple hundred a year
Upland habitat	About $150 per year
Upland habitat	About $150 per year
Upland habitat	Don't know. Nrcs would know.
Upland habitat	Fraction for this project is unknown (small), but overall costs about $90,000 per year, mostly in staff time, maintenance of equip, mileage, etc. For all monitoring
Upland habitat	Not itemized, but thinks a couple thousand dollars.

C-8 How much has been allocated for monitoring to date?

As for question C-7, responses to question C-8 were not easily standardized. Following are all of the unedited responses, by project type.

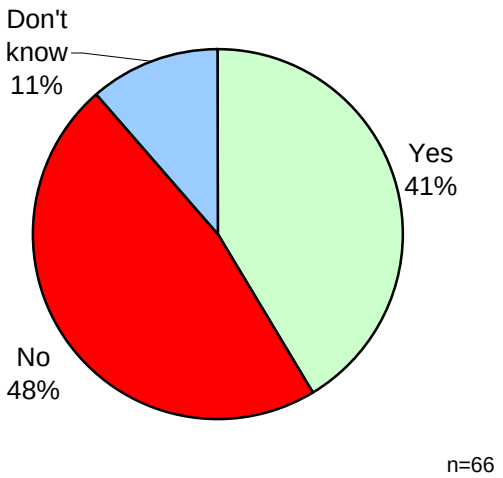
Project Type	Response to question C-8
Acquisition	Piecemeal - As Some Is In-Kind Plus Grants From EPA And Others.
Acquisition	See Question C-7
Estuarine/marine nearshore	100K Per 7 Years
In-stream diversions	$0
In-stream diversions	100-120K Over Four Years Since 1999
In-stream diversions	Corps Of Engineers
In-stream diversions	State-Sponsored.
In-stream habitat	$20,000
In-stream habitat	$5000 Over 5 Years
In-stream habitat	10k
In-stream habitat	10k
In-stream habitat	15k
In-stream habitat	2-3 Days In The Fall 2-3 Days For Fry Checks Est From Labor Days
In-stream habitat	2-3k
In-stream habitat	3k
In-stream habitat	46K By The End Of 2003
In-stream habitat	5-10K To Date For This Project, Supplements Existing WDFW Monitoring Program
In-stream habitat	5k
In-stream habitat	9k
In-stream habitat	All Lumped Into One Big Budget For All Of Their Projects.
In-stream habitat	Allocated Completely With Staff Time.
In-stream habitat	Allocation Is On Track As Expected To Date. First Two Years Is Approximately $250,000.
In-stream habitat	Don't Know
In-stream habitat	Existing Programs
In-stream habitat	Monitoring Is Opportunistic After Large Events
In-stream passage	$10,000

Project Type	Response to question C-8
In-stream passage	$1000 Allocated
In-stream passage	$20,000 For 7 Culvert Removal Projects
In-stream passage	$20000 Each Project
In-stream passage	$20k
In-stream passage	1000
In-stream passage	1500
In-stream passage	200k Per Year
In-stream passage	20k
In-stream passage	2-3k
In-stream passage	2k
In-stream passage	2k
In-stream passage	30 K Spent To Date
In-stream passage	Existing Programs
In-stream passage	Fully Allocated As Part Of The Staff's Duty.
In-stream passage	Joe Has Allocated Amount Needed.
In-stream passage	Nothing To Date
In-stream passage	Staff Budget Is Allocated
In-stream passage	Staff Time Is Allocated
In-stream passage	The Monitoring Related To This Project Is Part Of An Entire Watershed Monitoring Study, Funds Are Not Partitioned Out To The Specific Passage Issue
Riparian habitat	$1500
Riparian habitat	3k
Riparian habitat	4k
Riparian habitat	6k
Riparian habitat	Fully Allocated Budget.
Riparian habitat	Minimal
Riparian habitat	None From IAC. Some From Other
Riparian habitat	Nothing Has Been Specifically Allocated Specifically To This Project
Riparian habitat	Nothing Specifically Allocated, Filled In With Existing Programs
Riparian habitat	Observations For Up To 3 Years
Riparian habitat	There Isn't A Break Down, Just 5K Towards Buying The Plants
Riparian habitat	Volunteers
Upland habitat	$1,000 Over Life
Upland habitat	$54,000 (Pervious Contract Of Two Years Plus Renewal)

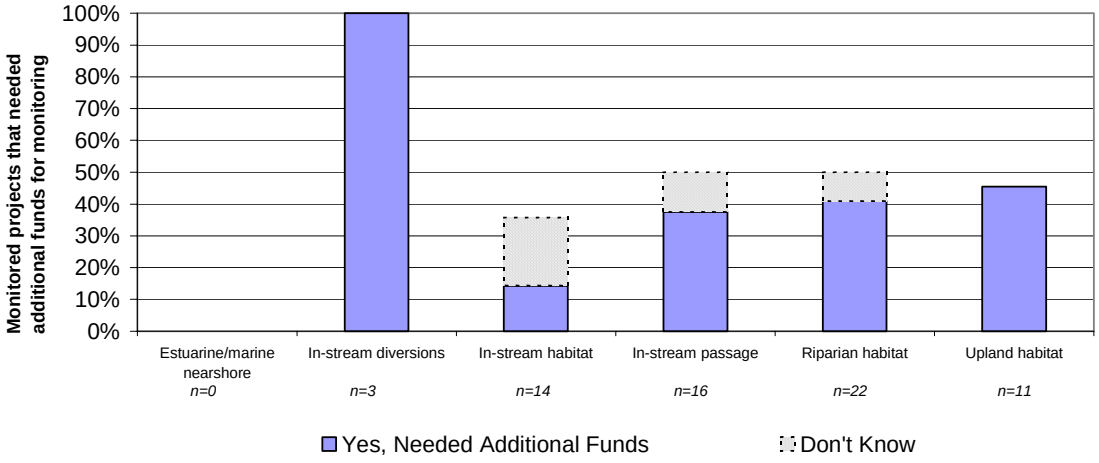
Project Type	Response to question C-8
Upland habitat	A Couple Thousand Dollars.
Upland habitat	About $500 Over The Life Of The Project.
Upland habitat	Don't Know.
Upland habitat	Lots Allocated For Monitoring, But Very Little Specific To This Upland Project.
Upland habitat	Would Have Been About $500 But Project Was Terminated.

C-9 Were additional funds needed for monitoring the project?

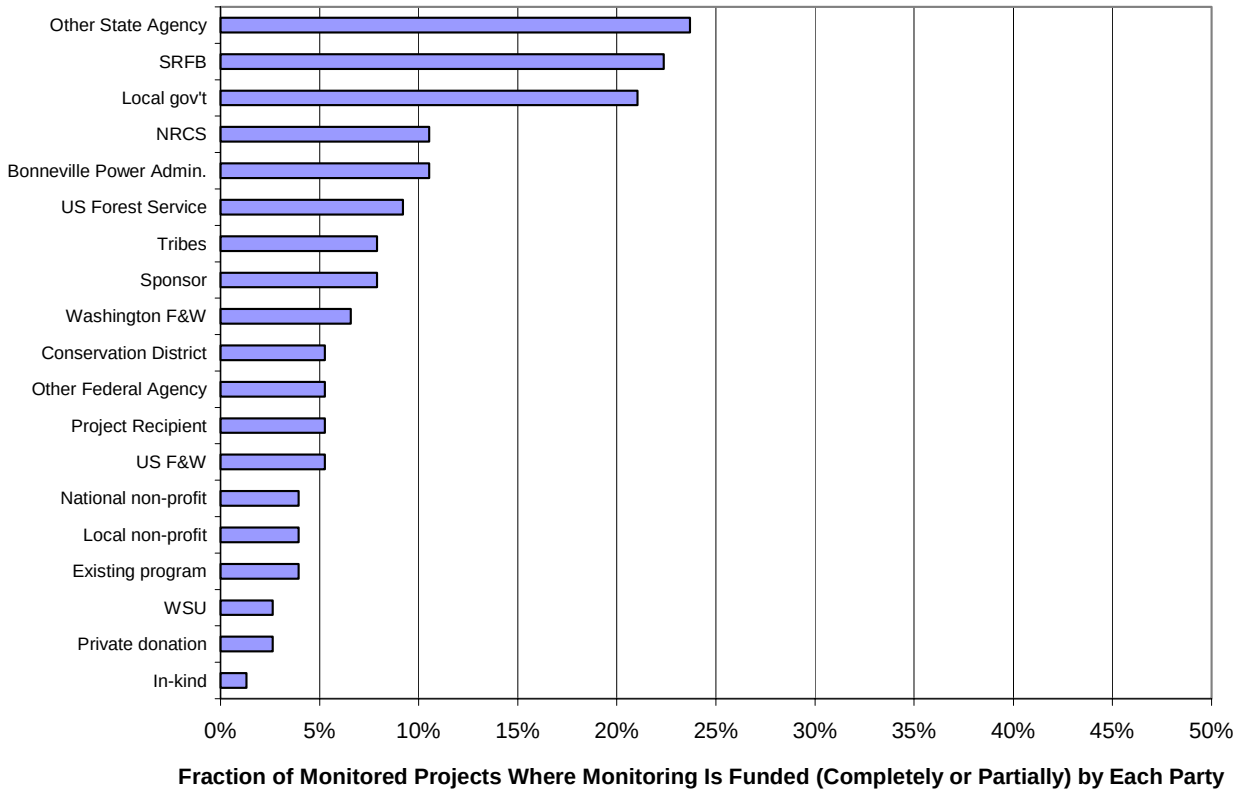
All Monitored Habitat/Capital Projects (Weighted results)



By Project Type



C-10 Who is paying for the monitoring (SRFB and other sources)? (Unweighted results – multiple responses permitted)[6]

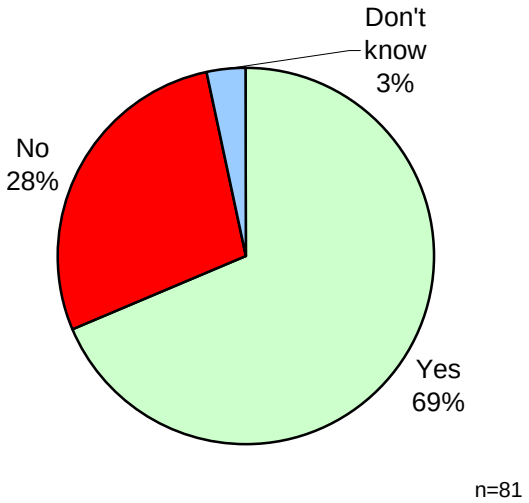


n=76

[6] The results in this table are not weighted. Therefore, they should be interpreted as representative of all respondents (76 to this question) but not necessarily to all SRFB-funded projects that conduct monitoring.

C-11 Have any monitoring results been reported?

All Monitored Habitat/Capital Projects (Weighted results)

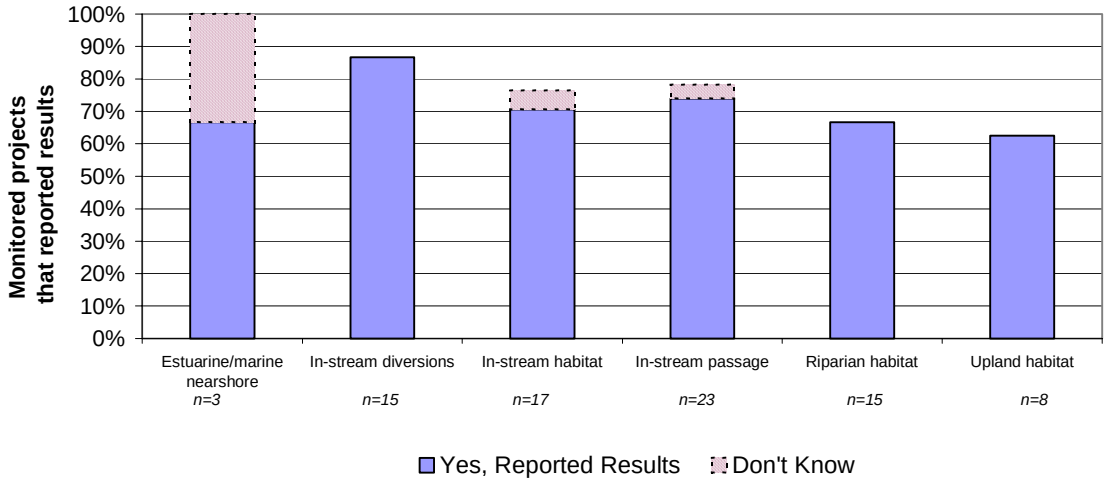


Of those that did report results, nearly all reported completing a written monitoring report, but only one-quarter said that report was submitted to the IAC or SRFB.

Reports were also submitted to:

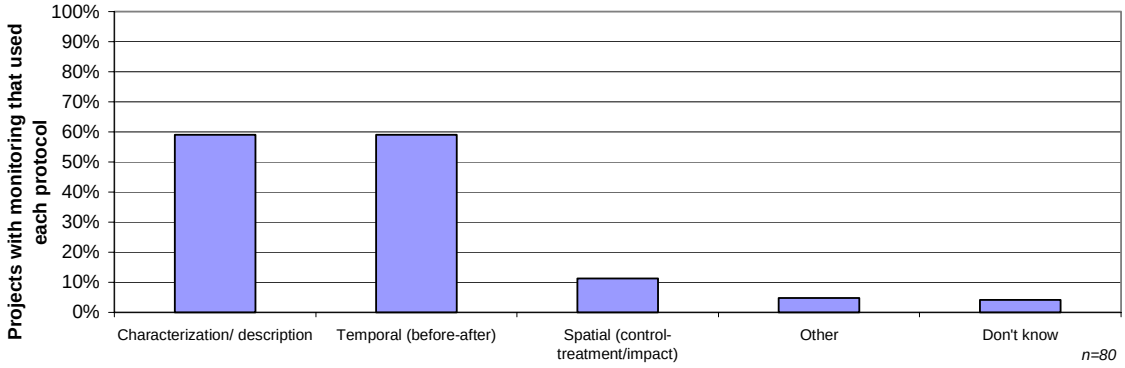
- Databases (including one operated by the WDFW);
- Dept. of Ecology;
- Dept. of Fish and Wildlife;
- BPA; and
- Other recipients.

By Project Type

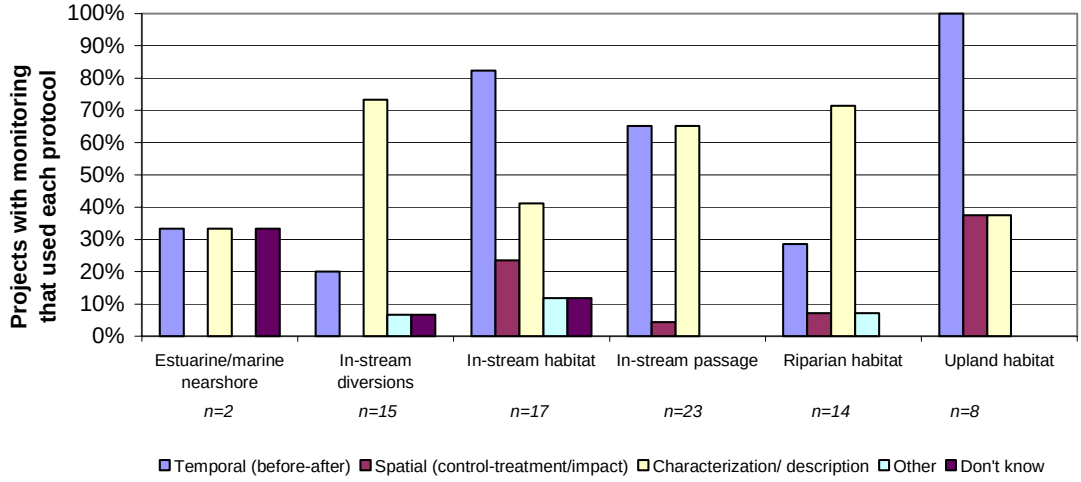


C-12 Which basic monitoring protocol did you use? (Multiple responses permitted)

All Monitored Habitat/Capital Projects (Weighted results)



By Project Type

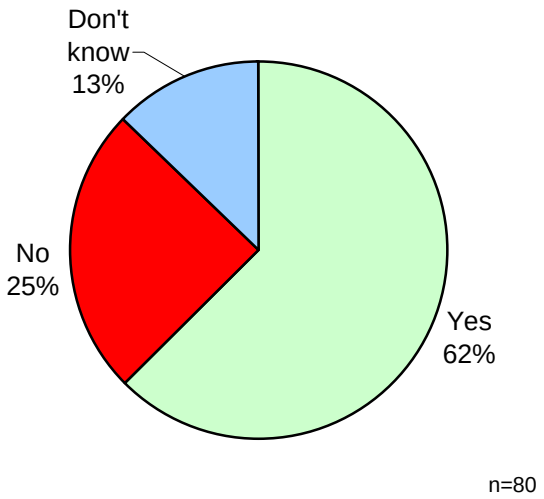


C-13 What monitoring methods are being used to evaluate the project? (Multiple responses permitted)

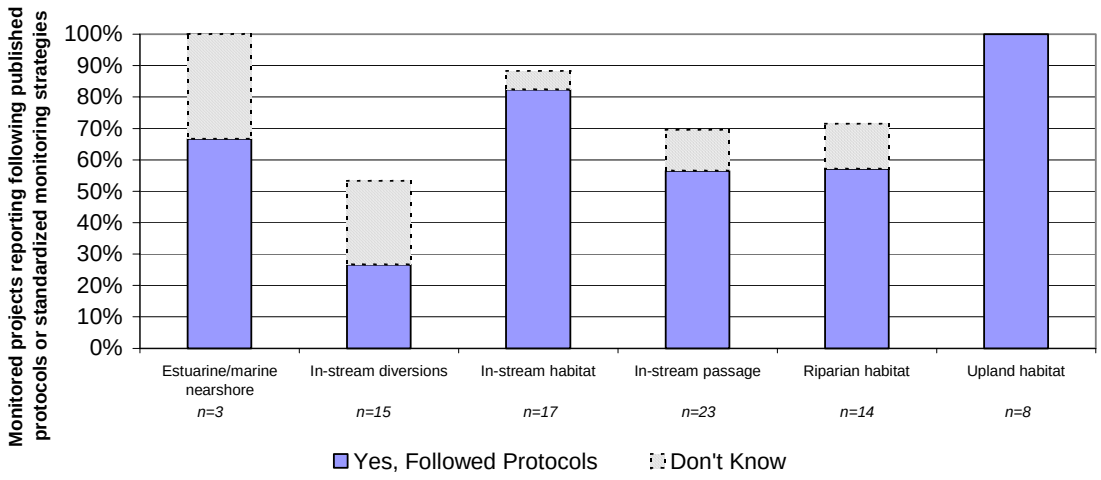
Monitoring Method	All Monitored Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Fish/redd sampling	**62%**	67%	53%	94%	83%	14%	0%
Riparian/vegetative surveys	**41%**	100%	13%	53%	22%	93%	0%
Habitat characterization	**27%**	33%	0%	71%	22%	0%	30%
Water quality	**19%**	0%	13%	35%	17%	14%	10%
Inspections/observations	**17%**	0%	67%	0%	13%	7%	30%
Macroinvertebrate sampling	**11%**	33%	0%	29%	9%	0%	0%
Aerial survey of geomorphic changes	**9%**	67%	0%	18%	9%	0%	0%
Photographs	**7%**	0%	0%	12%	9%	7%	0%
Sediment/soil loss	**3%**	0%	0%	0%	0%	0%	40%
Amphibian monitoring	**3%**	0%	0%	12%	0%	0%	0%
Flow monitoring	**2%**	0%	20%	0%	0%	0%	0%
Bird monitoring	**2%**	33%	0%	6%	0%	0%	0%
Gravel monitoring	**2%**	0%	0%	0%	4%	0%	0%
Soil moisture	**1%**	0%	0%	0%	0%	0%	10%
Shellfish monitoring	**1%**	33%	0%	0%	0%	0%	0%
Various other responses	**10%**	0%	0%	12%	0%	21%	30%
Don't know	**1%**	0%	0%	0%	4%	0%	0%
n=	*82*	*3*	*15*	*17*	*23*	*14*	*10*

C-14 Did you follow published protocols or standardized monitoring strategies?

All Monitored Habitat/Capital Projects (Weighted results)



By Project Type

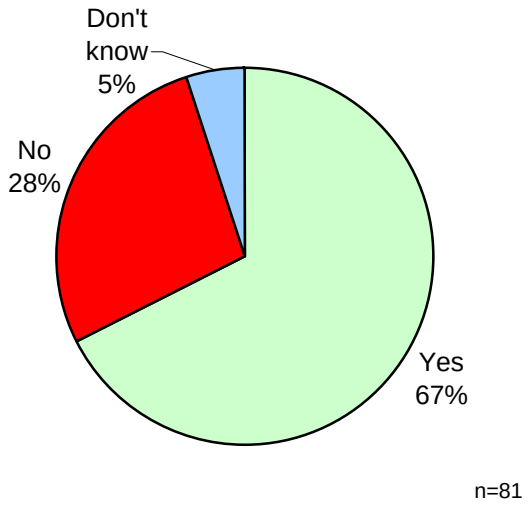


C-15 What indicators and metrics are being used to evaluate the project's success? (Multiple responses permitted)

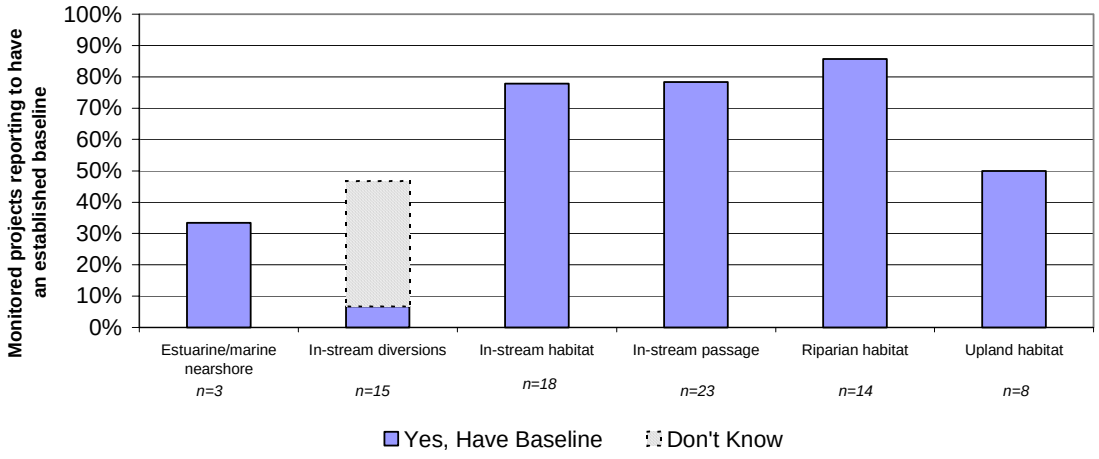
Monitoring Metric	All Monitored Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Fish species/density/age class structure	**61%**	67%	33%	82%	87%	21%	11%
Riparian/vegetative changes	**38%**	33%	13%	47%	17%	100%	0%
Channel morphology changes	**21%**	33%	0%	65%	13%	7%	0%
Reduction in erosion rate/sediment delivery	**10%**	0%	0%	12%	4%	0%	67%
Increased volume of gravel/cobble stored/trapped	**7%**	0%	0%	18%	4%	7%	0%
Performance of screens	**7%**	0%	53%	0%	0%	0%	0%
Water quality	**7%**	0%	0%	12%	0%	21%	0%
Flow direction and quantity	**6%**	0%	27%	0%	9%	0%	0%
Timeline met	**3%**	0%	0%	0%	0%	0%	33%
Behavior change of landowners	**3%**	0%	0%	0%	0%	0%	33%
Budget met	**3%**	0%	0%	0%	0%	0%	33%
Macroinvertebrates (BIBI)	**2%**	33%	0%	0%	4%	0%	0%
Inspections	**2%**	0%	7%	6%	0%	0%	0%
Spawning gravel size	**2%**	0%	0%	0%	4%	0%	0%
Design specs met	**1%**	0%	0%	0%	0%	0%	11%
Plant establishment	**1%**	33%	0%	0%	0%	0%	0%
Presence or absence of spartina	**1%**	33%	0%	0%	0%	0%	0%
Sediment movement	**1%**	33%	0%	0%	0%	0%	0%
Shellfish presence	**1%**	33%	0%	0%	0%	0%	0%
Other responses	**7%**	0%	0%	12%	0%	21%	11%
Don't know	**7%**	0%	13%	12%	9%	0%	0%
n=	*81*	*3*	*15*	*17*	*23*	*14*	*9*

C-16 Has a baseline been established for metrics of interest?

All Monitored Habitat/Capital Projects (Weighted results)



By Project Type



C-17 Where has the monitoring been conducted? (Please provide number of sites, areas, or stream length.)

Project Type	Response to Question C-17
Acquisition	3/4 mile of stream channel, 30 acres of tidal area
Acquisition	Reconstructed stream channel and the same amount for the estuary
Estuarine/marine nearshore	Entire project shoreline
Estuarine/marine nearshore	See monitoring plan
Estuarine/marine nearshore	Throughout the estuary
In-stream diversions	Along the ditch and at point of diversion
In-stream diversions	At all the screens (6-8 screens) over a 15 mile stream length
In-stream diversions	At diversion
In-stream diversions	At diversion.
In-stream diversions	At diversions ("out takes".)
In-stream diversions	At facility.
In-stream diversions	At site of screen.
In-stream diversions	At the facility
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the facility.
In-stream diversions	At the site of screen.
In-stream diversions	Probably at the screen site and upstream diversion
In-stream diversions	Throughout Basin: above and below the diversion.
In-stream diversions	Throughout Basin: above and below the diversion.
In-stream habitat	3 pools, 12 cross sections (3-4 per pool reach)
In-stream habitat	3/4 mile reach where project was conducted; 6-8 sites focused on channel connections to main stem
In-stream habitat	3250 ft

Project Type	Response to Question C-17
In-stream habitat	5% of reach vegetation-3 sites, 180 sq ft total (60 sq ft each) fish-3 reaches, 300 sq ft total (100 ft each)
In-stream habitat	500-800 feet; pre and post on all; qualitative sampling on subset of structures, a winter snorkeling, juvenile
In-stream habitat	All along this little reach
In-stream habitat	All three
In-stream habitat	At selected cross sections throughout the 2 mile reach and associated with the 6 project structures
In-stream habitat	Along 0.3 mi. Of river
In-stream habitat	Entire 1/2 mile
In-stream habitat	Over entire length 1.25 miles
In-stream habitat	Overall length of channel (2100 ft).
In-stream habitat	Side channel or constructed side channel connection stream, immediate riparian area
In-stream habitat	Six sites
In-stream habitat	Three sites
In-stream habitat	Throughout the 550 ft reach
In-stream habitat	Throughout the 550 sq ft for both baseline and post project
In-stream habitat	Within the restoration area, monitoring upstream/downstream (Redd counts by tribe)
In-stream habitat	Within the restoration area, monitoring upstream/downstream (redd counts by Tribe)
In-stream habitat	Wood budget is covering over 20 miles. Snorkeling and videography is in project reach (approximately 1.5 miles).
In-stream passage	1 to several sites
In-stream passage	1/2 mile reach
In-stream passage	18,000 square meters
In-stream passage	300' of stream
In-stream passage	Along the whole project area, above and below old culvert
In-stream passage	Approximately 1200 feet of water and intertidal channels (intertidal channels are approx 600 ft)
In-stream passage	At culvert location using smolt trap streamwalks-throughout watershed
In-stream passage	At the site
In-stream passage	Culvert upstream 3.7 Kilometers
In-stream passage	Along one mile of stream channel

Project Type	Response to Question C-17
In-stream passage	For the most part, at the site and within 1-2 miles upstream
In-stream passage	Immediate vicinity of the culvert
In-stream passage	In the basin.
In-stream passage	Right at the site, one location
In-stream passage	Right at the site. One site for observations
In-stream passage	Smolt traps at each project location; stream walks throughout the watershed; adult spawner surveys
In-stream passage	Smolt traps installed at the culvert stream walks-entire stream length
In-stream passage	Specific sites and reaches surveyed
In-stream passage	The length of original stream reconnaissance is length being monitored
In-stream passage	Throughout the watershed, 10 sq miles
In-stream passage	Upstream of project area, about 300-400 feet of stream area before vegetation gets too thick
In-stream passage	Visual observations of the stream channel above the culvert. Some measurement of gravel distribution at the culvert.
In-stream passage	Water quality- three locations downstream, upstream; vegetation-stream buffer; instream-2000'
Riparian habitat	Station downstream of site
Riparian habitat	1.5 miles of stream length; multiple sites
Riparian habitat	1.5 miles of stream, multiple sites
Riparian habitat	2 vegetation sites (1000 sq ft each) in all 4 fish ponds
Riparian habitat	2.5 miles of stream, multiple sites
Riparian habitat	4 sites, mainstem and side channel habitat
Riparian habitat	42 sites looked at multiple times
Riparian habitat	Observations within the project area (the 1000-1500 stream bank)
Riparian habitat	Site inspection of the water line.
Riparian habitat	Survival on entire site
Riparian habitat	Throughout the 5 acre site
Riparian habitat	Throughout the project area and in the stream (stream monitoring is a separately funded project)
Riparian habitat	Vegetative survey covers the entire site. Water quality is only at one site.
Riparian habitat	Whole stream length
Riparian habitat	Within the 1.5 acre planting area
Upland habitat	11 sites, close to 100 miles of stream

Project Type	Response to Question C-17
Upland habitat	All along the road
Upland habitat	All along the road
Upland habitat	All along the road system
Upland habitat	On every site where practices implemented = 17
Upland habitat	On-site
Upland habitat	On-site
Upland habitat	On-site
Upland habitat	On-site.

C-18 How often have data been collected?

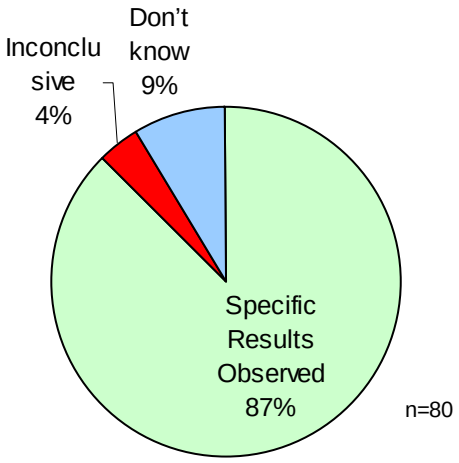
	All Monitored Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Daily (during season) or continuous	**11%**	0%	23%	7%	19%	0%	0%
Weekly or Bi-weekly (during season)	**18%**	0%	62%	7%	24%	0%	0%
Monthly or Bi-monthly	**6%**	100%	0%	0%	5%	14%	0%
2-4 times per year	**26%**	0%	0%	47%	14%	29%	60%
Annually	**30%**	0%	8%	27%	29%	50%	40%
Bi-annually or less frequent	**5%**	0%	0%	7%	10%	0%	0%
Other response	**4%**	0%	8%	7%	0%	7%	0%
n=	***69***	*1*	*13*	*15*	*21*	*14*	*5*

C-19 What is the time frame (duration) of the monitoring plan?

	All Monitored Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Less than one year	**1%**	33%	0%	0%	0%	0%	0%
1-3 years	**13%**	0%	0%	13%	14%	29%	0%
4-5 years	**34%**	0%	0%	50%	36%	29%	60%
7-10 years	**8%**	33%	0%	19%	5%	7%	0%
Indefinite or on-going	**44%**	33%	100%	19%	45%	43%	40%
Other response	**1%**	0%	0%	0%	0%	0%	20%
n=	***78***	*3*	*16*	*16*	*22*	*15*	*6*

C-20 What results has the monitoring shown to date?

All Monitored Habitat/Capital Projects (Weighted results)



	All Monitored Habitat/Capital Projects (weighted)	Estuarine/marine nearshore	In-stream diversions	In-stream habitat	In-stream passage	Riparian habitat	Upland habitat
Specific Results Observed	**87%**	0%	100%	67%	88%	91%	87%
Inconclusive	**4%**	0%	0%	0%	6%	0%	13%
Don't know	**9%**	100%	0%	33%	6%	9%	0%
n=	***80***	*3*	*15*	*16*	*23*	*15*	*8*

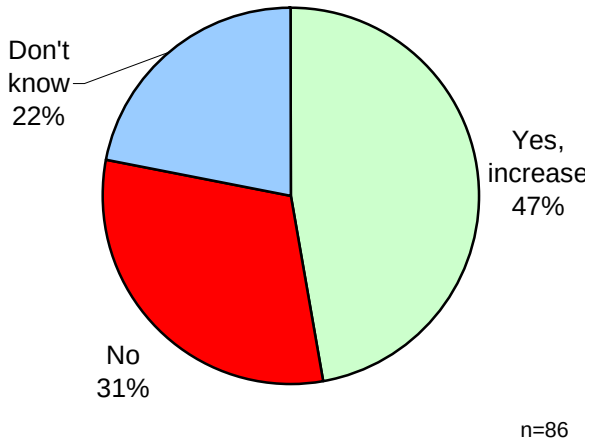
Most of the specific results cited pertained to the successful installation and basic effectiveness of the project, such as (in no particular order):

- Performance of screens;
- Survival of plantings; or
- Reduction in erosion.

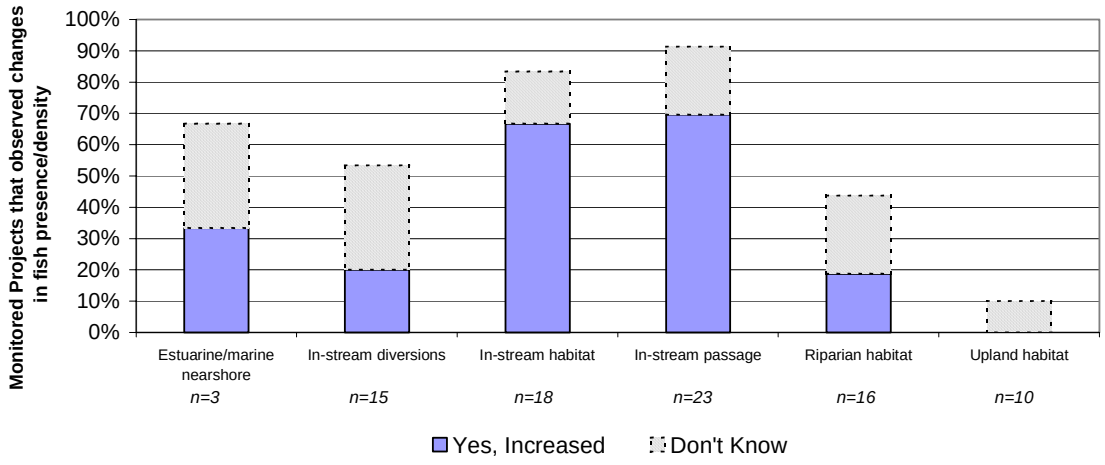
But respondents did also note changes in fish presence or density, as described further under question C-21, below.

C-21 Were any changes in fish presence or local densities observed as a result of the project?

All Monitored Habitat/Capital Projects (Weighted results)



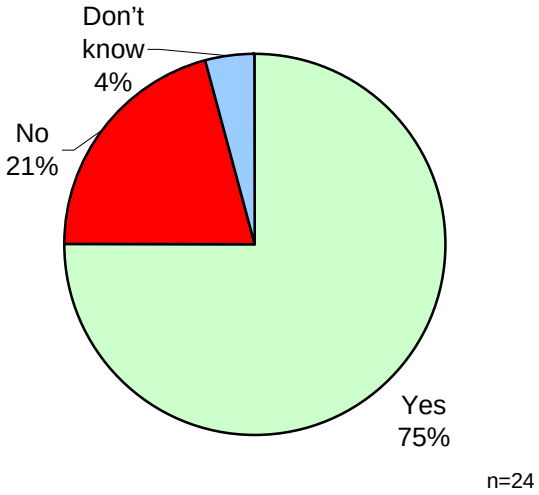
By Project Type



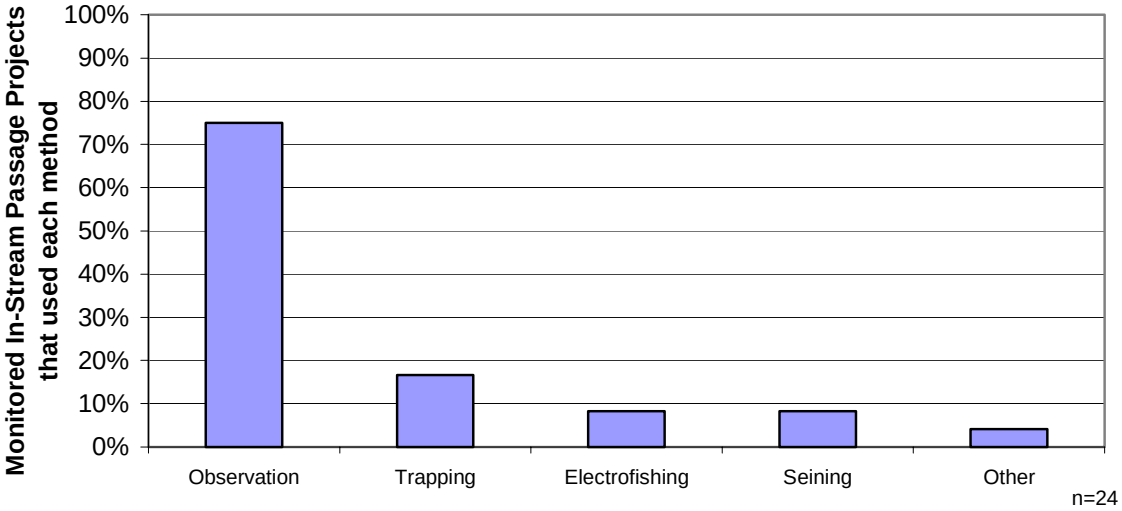
FOR HABITAT PROJECTS ONLY (H)

FOR HABITAT – IN-STREAM PASSAGE ONLY

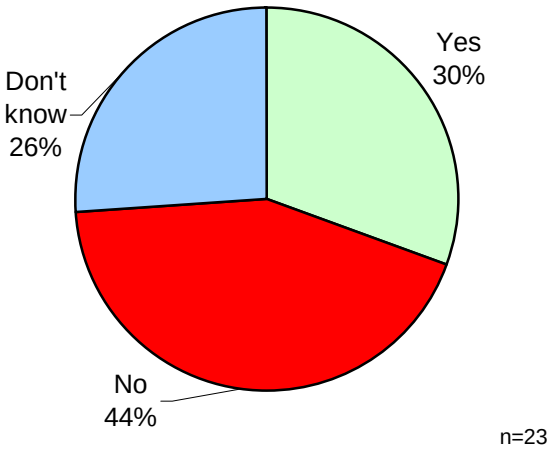
C-H2.1 Were surveys conducted of adults, redds, juveniles, and/or fry upstream of the barrier after implementation?



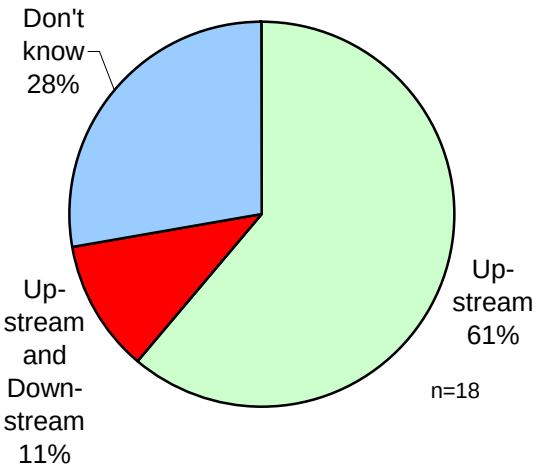
C-H2.2 If yes, what methods were used? (Multiple responses permitted)



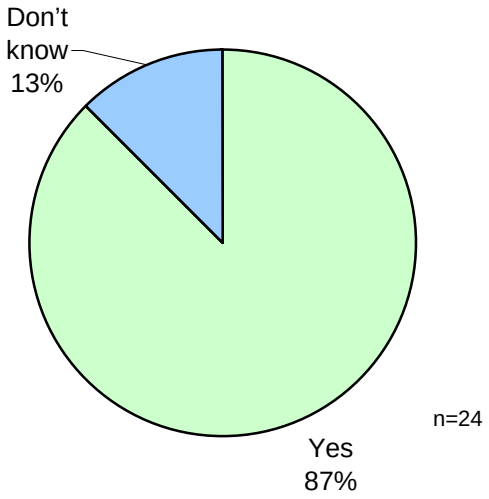
C-H2.3 Were upstream-downstream comparisons made?



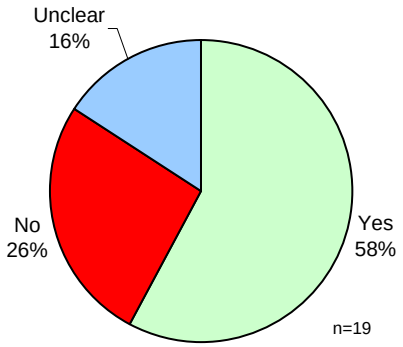
C-H2.4 Were changes noted upstream, downstream, or both?



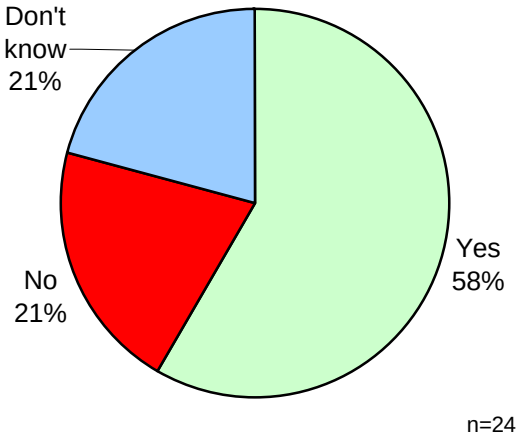
C-H2.5 Did removing the barrier open up spawning/rearing habitat upstream?



If yes, did removing the barrier provide better quality spawning/rearing habitat upstream than was available downstream?

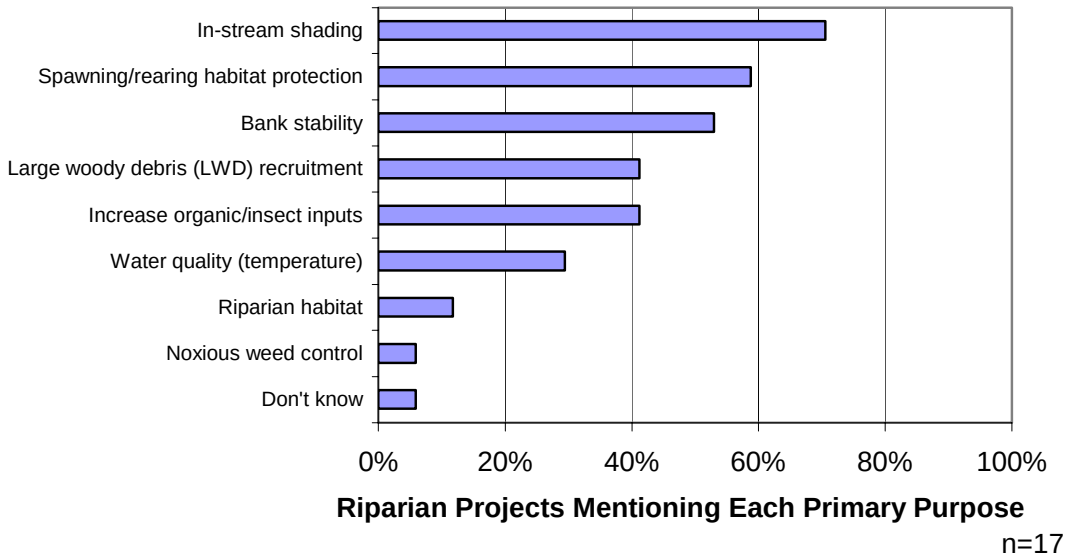


C-H2.6 Have you noted the flow range over which fish passage is now afforded?

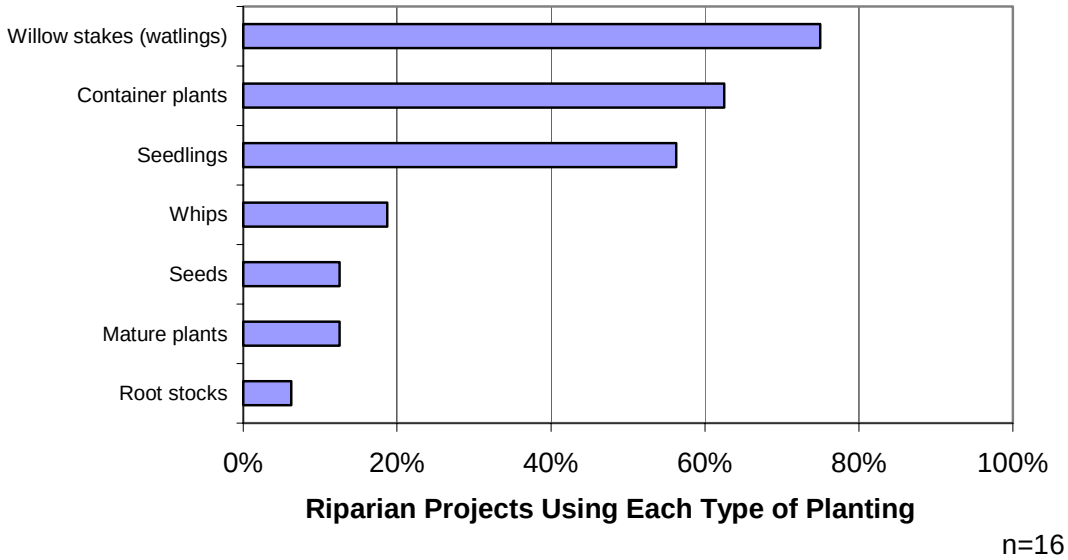


FOR HABITAT – RIPARIAN HABITAT ONLY

C-H3.1 What were the primary purposes of the project? (Multiple responses permitted)

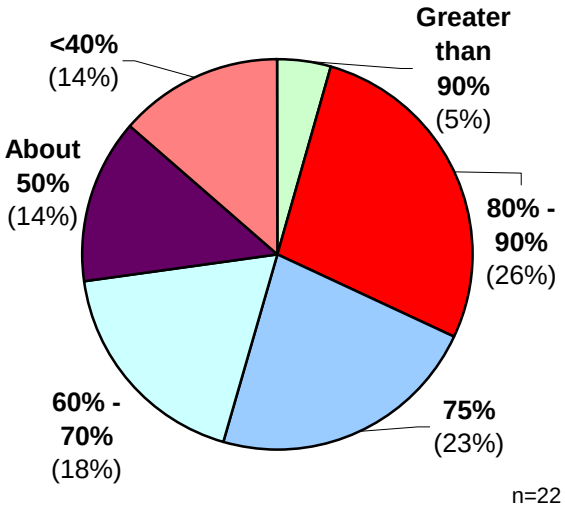


C-H3.2 What type of plantings were used? (Multiple responses permitted)

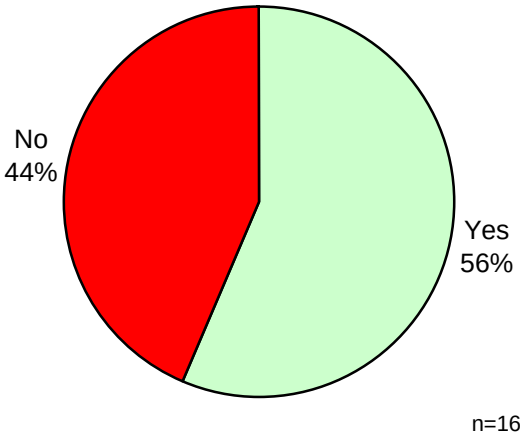


C-H3.3 What percent of plantings survived the first year? ___ The second year? ___

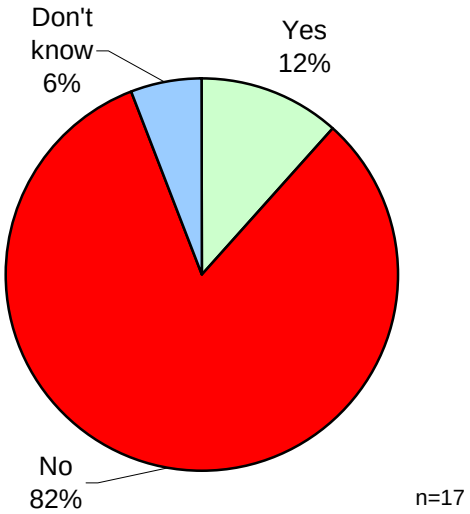
Note: No respondent was able to give the survival rate for multiple years, so the following chart makes no distinction between the first year and second year. In other words, the responses below should be taken to be answers to the question "What percent of plantings survived after the first or second year?" In addition, many respondents noted that the survival rates were obtained by completing some replanting.



C-H3.4 Were additional plantings necessary?



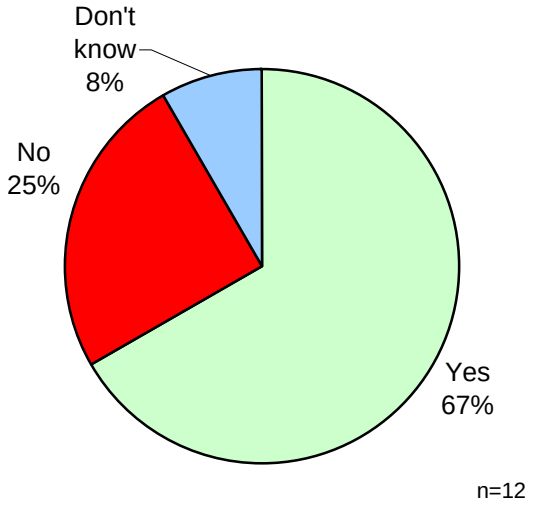
C-H3.5 Were temporary erosion control measures necessary?



FOR HABITAT – IN-STREAM DIVERSION ONLY

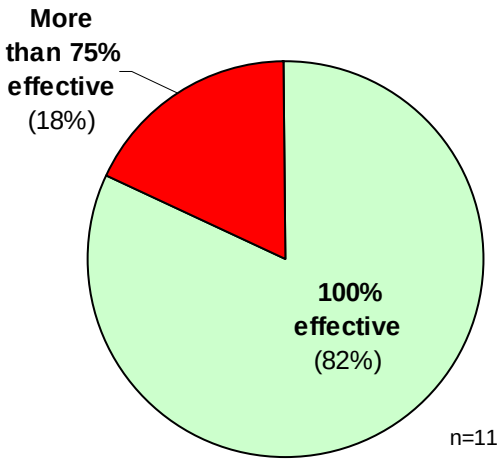
C-H4.1 Was there a reduction in water diverted as a result of the project?

Please note that this question was not applicable to some diversion projects (such as those just involving only fish screens), so these projects are not included in the following chart.



C-H4.2 How effective is the screen in preventing fish from entering ditch?

Please note that not all diversion projects involved screens; the chart below pertains only to those projects that did.

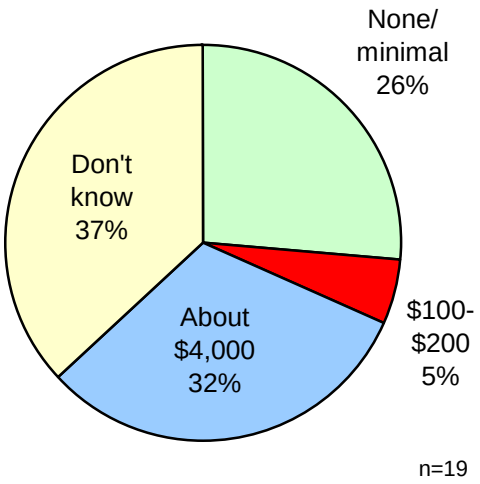


C-H4.3 How long do fish take to return to channel from screen location?

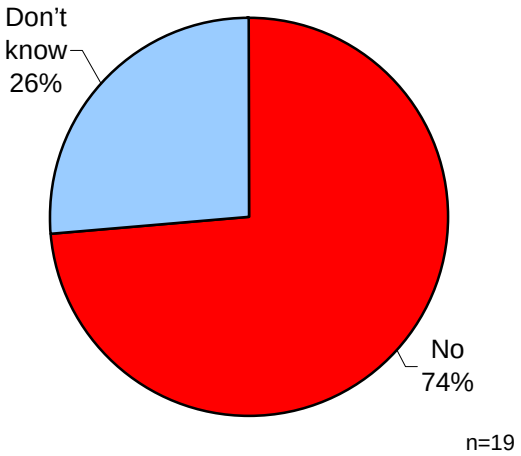
Most respondents said that it takes fish a negligible amount of time to return to the channel. The exact responses given are as follows:

- Depends on the fish. Smolt return immediately. Rearing fish stay longer; sometimes for the whole season.
- Depends. Bypassed into a wetland area with a small channel. Created some habitat here. For small fish, this is preferred off-channel habitat. Some stay in bypass. Provides about 100-200ft of rearing habitat. Can be back in creek within minutes.
- Depends. Smolt go right away within minutes. Resident fish and fry will probably hang out in the channel.
- Depends. Smolt return immediately to the river. Rearing fish stay longer to use cover; sometimes stay for whole season. [Note: This response was given three times.]
- Instantaneous, although there is an opportunity for fish to hold out in front of the screen and eat and then leave.
- Screen is in the channel.
- No bypass so it's immediate.

C-H4.4 About how much annual O&M costs are being incurred?

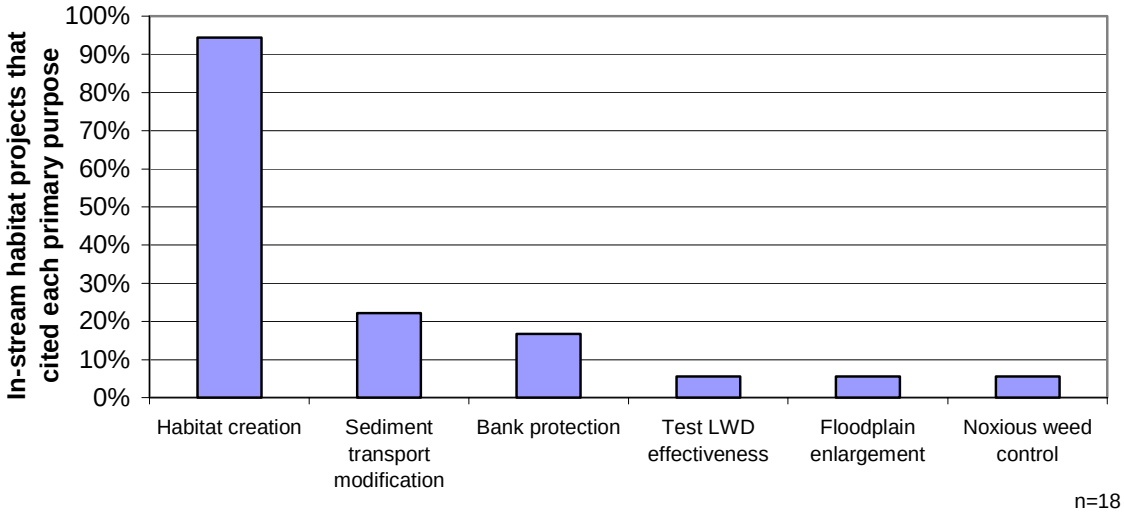


C-H4.5 Are there site-specific features of the design that could be improved?



FOR HABITAT – IN-STREAM HABITAT ONLY

C-H5.1 What was the primary purpose of the project? (Multiple responses permitted)



C-H5.2 If spawning gravel-related:

a. Why was gravel in short supply initially? (Natural geology; removal of in-stream wood/downcutting; dam upstream; gravel mining upstream/locally; increased frequency/duration of peak flows; streambank hardening; other modification of upstream sources)

Responses given
Dams
Decrease in fish and increase in sedimentation causing cementation of channel bed
In some places
Indirectly created good spawning gravel areas well oxygenated
No
Streambank hardening
They were making an artificial channel
Yes in short supply

b. How much gravel was added? Cubic yards? Square Feet?

Responses given
1000 yards
30 cubic yards
30 cubic yards
800-1000 tons
A new channel was created covering approximately 21,000 square feet.
No
No
None

c. How much has remained within reach and provides habitat?

Responses given
90%
All of it 800-1000 tons
All stayed in place and more recruited
The majority of it

d. Has gravel shifted around in the reach?

Responses given
Got shifted around during high flows in Jan 2002
No
No, is pretty stable
Some trapping in some of the structures
Yes
Yes, small amount

e. Was scour and fill measured? How? (scour monitors; cross-section survey; topographic survey; visual observation)

Responses given
No
No
No
Topographic survey was conducted
Yes, visual observation, and there is no scour and fill

f. Does more gravel need to be added? What fraction of original amount?

Responses given
No
No
No
Not currently, in the future it may periodically need to be added, areas for these future additions have been identified
Yes, by dam removal

g. How many spawning seasons between implementation and first use by fish? (0 = first fall/winter/spring (i.e., within a few months usually) after implementation, 1 = second fall/winter/spring (following year), etc.)

Responses given
0
1
2 going on 3
Potentially the first years, definitely by the second year observed spawners
Spawning occurred within the first year of structure.

h. (If applicable) Has use increased in successive seasons?

Responses given
Can't tell yet
Tribe would know
Yes
Yes
Yes
Yes

i. Has use been redirected from other spawning locations?

Responses given
Can't tell without additional baseline information, use juvenile fish rearing numbers
Don't know
No
No, there were no other spawning locations
Yes, more spawning taking place with increase in spawning media and habitat

j. Have fry been observed? Have numbers been quantified?

Responses given
Yes and yes, by seasonal snorkeling
Yes observed and yes quantified -- about 1500
Yes! No quantification he is aware of, but from his observations as the property owner there has definitely been an increase, "literally hundreds"
Yes, tribe has outmigrant traps

k. Has there been any siltation of placed gravels that might be considered excessive?

Responses given
Don't believe so, some concern rpior to starting project due to native soils, no excessive silting occurring, good gravel base
No
No
No

C-H5.3 If bank erosion-related:

a. Intended to protect spawning or rearing habitat downstream?

Responses given
In some parts an issue
Indirect benefit of bank stabilization/channel stabilization
No
No, not with channel bank hardening, increase chance of erosion with natural channel and large rainfall events
Two projects bank erosion related; 1 to protect pool, 1 to create pool habitat, mid channel was to deflect flow
Yes
Yes
Yes, bank compression and erosion was cause of the problem

b. Was treatment location a primary/significant or secondary/cumulative source of fine sediments?

Responses given
No, river is gravel mostly, no fine problems
Some erosion problems
Yes

c. Has bank erosion begun in nearby, non-treated location?

Responses given
No
No
No, providing habitat complexity downstream of site
One project site blew out and erosion has occurred, one site increased in complexity with minor erosion

C-H5.4 If adult holding habitat creation-related:

a. Was habitat in short supply initially?

Responses given
Absence of resting areas, backwater pools, rocks, boulders
Adults use the log jams
Definitely
Holding pool was in short supply but spawning gravels were being under utilized.
Major limiting factor
On this stretch, yes
Pools and riffles
Short supply in lower river, site closer to larger areas, in transitional areas
Still remains in short supply
Yes
Yes, only 1-2 pools with no wood cover
Yes, stream width change from 30', shallow depth to 15-20' with deeper depth ratio
Yes, was only sheet flow in this reach

b. Was initial existing habitat associated with risks? Poaching; over-crowding; too far from spawning habitat; poor water quality (temperature)

Responses given
All associated with the work the corps did
At one site habitat okay, two sites habitat improved yes
Lack of habitate
Not applicable
No
Not adequate holding habitat for the amount of spawning gravel
Not applicable
Temperature
Water quality and habitat degradation primarily, poaching and overharvesting minor issues
Water quality, velocity
Yes, poor distribution of adults resulted in poaching and underutilization of spawning gravels. Also overutilization in other areas.

c. Have adults been redistributed successfully?

Responses given
Can't tell
Fish generally respond to better spawning conditions
Minor redistribution, refuge
Not applicable
Observed them in the holding areas, may be drawn in from other habitats
Yes
Yes
Yes
Yes
Yes
Yes, due to instream structures, reduced riparian grazing, LWD
Yes, no are able to use larger area of stream channel

d. Was there an increase in numbers of redds in reach associated project?

Responses given
2 of the last 4 years have been the best on record
Can't tell
Don't know
Don't know, increased generally through system
Don't know, not an obvious increase
No
Not looking at redds sampling yet collected by WDFW
Yes
Yes
Yes
Yes, more fish were spawning in the side channel. Some of the increase may be natural.
Yes, no redds before due to lack of gravel

C-H5.5 If juvenile rearing habitat creation-related:

a. Was habitat in short supply initially?

Responses given
Definitely
Don't know
Major limiting factor
Not sure
Still remains in short supply
Yes
Yes
Yes
Yes
Yes, especially over winter, no refuge from fast current
Yes, no habitat
Yes, river has lost 80-90 % of side channel habitat lost

b. Was predation an issue? How much?

Responses given

- Could be an issue to do lack of complex pool habitat
- Don't know
- Don't know
- No
- No
- Not a big issue, more of a problem in rearing ponds
- Not an issue, some bull trout and heron
- Not issue prior, one issue potentially now that open pond area is now available
- Was predation or not sure
- Yes
- Yes, stocked with bass
- Yes, there wasn't very much hiding cover for them

c. Has juvenile use been observed?

Responses given
Juvenile has been
Large number of adults returning, good bugs, record not long enough to document juvenile use changes
No
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes,
Yes, snorkling

If yes:

i. Have densities increased overall?

Responses given
Don't know
Increased density on project sites
No quantiative data
Not sure
Probably yes but verify with Tribal data
Yes
Yes
Yes
Yes
Yes from baseline
Yes, the habitat is being utilized by juveniles as seen by underwater videography.

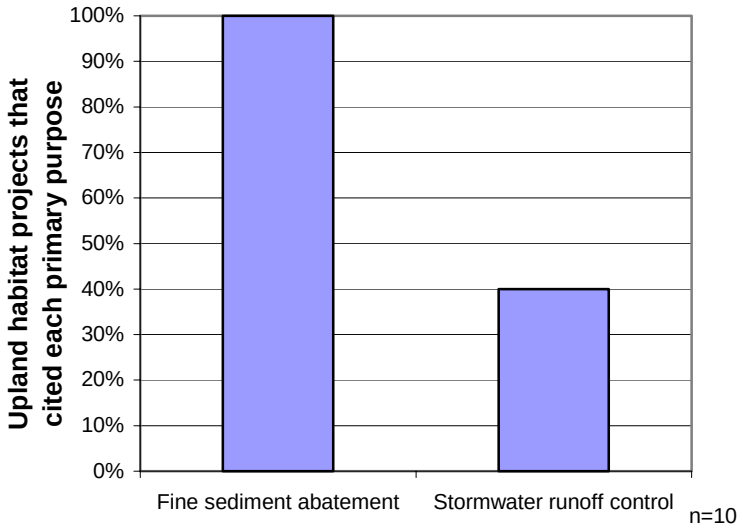
Or,

ii. Have juveniles mostly redistributed from poorer quality habitat to the new habitat

Responses given
Don't know
Don't know
Don't know
Don't know
Increasing not redistributing
Maybe yes but verify with Tribal data
More juveniles are distributed throughout a larger area
No quantiative data
Not sure
Yes
Yes for both juveniles and adults

FOR HABITAT – UPLAND HABITAT ONLY

C-H6.1 What was primary purpose of upland habitat modification? (Multiple responses permitted)



C-H6.2 If fine sediment abatement-related:

FOR HABITAT – ESTUARINE/MARINE NEARSHORE ONLY

Since there were only three estuarine/marine nearshore projects surveyed, the results presented in this section will rely more on raw counts and actual answers given than on the graphical and tabular format used for other project types with more projects in the survey population.

C-H7.1 What was the primary habitat of interest?

All three projects responded to this question. The responses given (each was cited only once) included:

- Estuary
- Upland plant buffer
- Intertidal mudflat; and
- Emergent marsh.

C-H7.2 Was monitoring conducted prior to project construction?

Two projects responded “yes”, and one project responded “no”.

C-H7.3 [If YES in C-H7.2] What monitoring methods were used?

One respondent cited the presence or absence of spartina, and the other respondent cited fish sampling but noted that since the WDFW was conducting monitoring there likely were additional methods used.

C-H7.4 What were the primary goals for habitat functions?

The following table shows how many times each response was given by the three respondents.

Response	Times given
Fish access to intertidal areas (for feeding, spawning, or refuge)	3
Salmonid prey production (from upland, marsh, or mud)	2
Emergent vegetation structure (e.g., emergent marsh organic inputs/refuge)	2
Riparian functions (e.g., shading/organic inputs)	1
Stable substrate (e.g., beach composition for forage fish spawning)	1
Submerged vegetation structure (e.g., algal/eel grass nearshore subtidal foraging/refuge)	1

C-H7.5 What monitoring methods were used to evaluate progress towards those goals?

One respondent cited fish sampling; one respondent cited fish sampling and plant density/survival sampling; and one respondent cited the eradication of spartina.

C-H7.6 What were the target organisms of interest?

All three respondents cited salmonids, and one respondent also cited epibenthic or benthic invertebrates, shellfish, and forage fish.

C-H7.7 What was the primary restoration technique used?

The following table shows how many times each response was given by the three respondents:

Response	Times given
Tidal channel reconstruction	2
Shoreline restoration	2
Landfill removal	1
Plant removal/control	1

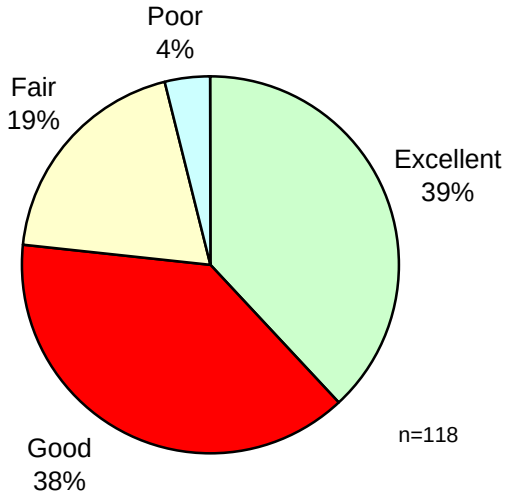
D. Overall Project Feedback

D-1 In your opinion, how successful was the project?

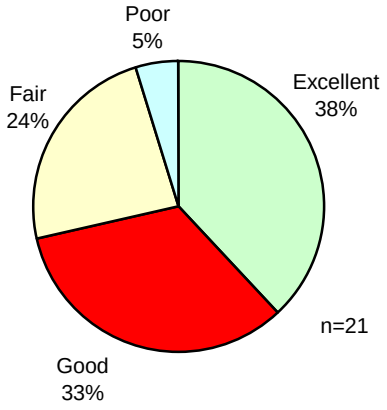
	Very successful	Moderately successful	Moderately unsuccessful	Not successful
Overall (weighted)	**74%**	**24%**	**1%**	**1%**
Acquisition	88%	13%	0%	0%
Assessments and studies	62%	38%	0%	0%
Estuarine/marine nearshore	100%	0%	0%	0%
In-stream diversions	94%	6%	0%	0%
In-stream habitat	60%	35%	0%	5%
In-stream passage	96%	4%	0%	0%
Riparian habitat	53%	42%	5%	0%
Upland habitat	78%	11%	0%	11%

D-2 [Not for Planning/Assessments] How would you characterize the quality of the habitat that the project protected or restored?

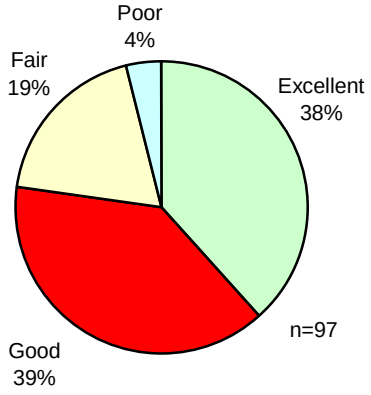
Acquisitions and Habitat Projects (weighted results)



Acquisitions



Habitat/Capital (weighted)

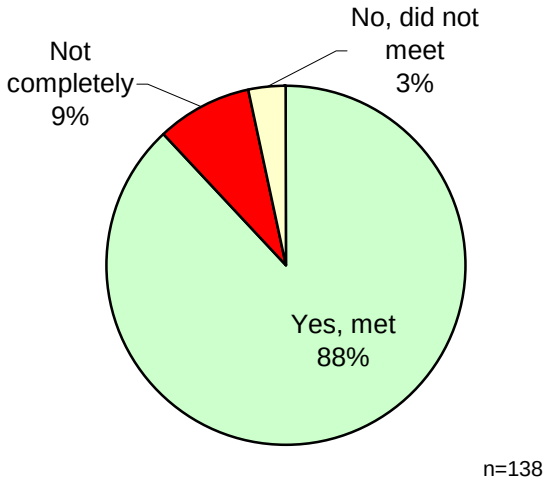


D-3 [If NO to C-1] How closely were the project's design specifications met? How do you know? How did you determine whether the project was successful?

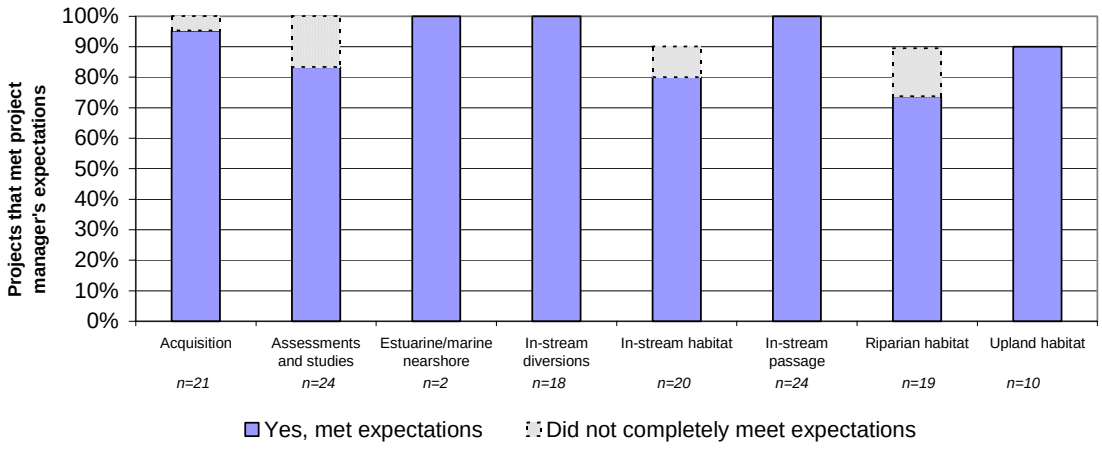
Project Type	Responses to Question D-3
Acquisition	100% - land purchased
Acquisition	Closely
Acquisition	Exactly
Acquisition	Exactly
Acquisition	Exactly, on target
Acquisition	Met
Acquisition	Met
Acquisition	Met goals
Acquisition	Met, except demolition and decommissioning
Acquisition	Specs met
Acquisition	Specs met - acquired planned area within budget.
Acquisition	Very closely
Acquisition	Very closely
Acquisition	Very closely. Only difference was didn't know how much to accomplish, land to acquire, on the way in. Really exceeded expectations.
In-stream diversions	Met exactly
In-stream diversions	They were met
In-stream diversions	Very closely met
In-stream habitat	Not very. The design submitted for how the log would look was dependent on wood availability. The distribution of available wood was different from needed.
In-stream habitat	Right on target except for when ran into the pipes from a well; had to cut back inflow opening to leave pipes covered, BUT still was able to provide and opening large enough to consider at minimum a 100-year event
In-stream passage	Very closely, "to the T"
In-stream passage	Yes, design specs met, but construction methods had to be altered to deal with the two gas pipe lines
Riparian habitat	Closely
Riparian habitat	Fencing is working, good survival of plants; know this because have visited the site
Upland habitat	Met pretty closely, determined project success based on observations only, not on quantitative data
Upland habitat	Precisely

D-4 Did the work product meet your expectations?

All Projects (weighted results)



By Project Type



D-5 What elements of the project were particularly successful?

Project Type	Responses to Question D-5
Acquisition	Acquisition successful in providing permanent protection for piece of critical habitat.
Acquisition	Everything - got parcels wanted, and one donated. Good matching funds for the other.
Acquisition	Forward thinking landowner donating $1M in property, very conservation minded.
Acquisition	Forward thinking landowner donating $1M in property, very conservation minded.
Acquisition	Intact habitat in very good condition
Acquisition	Land acquisition itself
Acquisition	Land is purchased, and now available as step 1 for restoration activities in that area
Acquisition	None
Acquisition	None
Acquisition	Seller agreed to donate part of the value of the project.
Acquisition	Successful in getting partnerships to work on this scale of a project.
Acquisition	Very visible from highway, good for taxpayer viewing
Acquisition	Willing sellers, had a desire to preserve/protect property. Wanted to keep property intact.
Acquisition	Willingness of seller to donate this specific portion of property
Assessments and studies	All parts were successful. Keep going back to it, using it for direction.
Assessments and studies	All the pieces
Assessments and studies	All were successful, starting with work with legislators in DC, to contacts with IAC, to purchase and delivery of projects, were successful.
Assessments and studies	Assuring a tribal voice in habitat restoration planning.
Assessments and studies	Baseline data was accurate in our opinion, the monitoring points were successful, have been able to repeat the process every year.
Assessments and studies	Building of trust and more effective communication
Assessments and studies	Coalition-building, building support for salmon recovery planning
Assessments and studies	Collaborative effort, landowner and kid component, watching tribal staff members do this work and feel really good about the work they're doing, sense of ownership

Project Type	Responses to Question D-5
Assessments and studies	Consultant's report is a really good basic document to help guide future planning efforts or policy development. City did a very nice job with the educational materials.
Assessments and studies	Demonstrated the value of GIS technology in looking at large-scale assessments.
Assessments and studies	Document database, summary of baseline information, and technical tools to use to help in an assessment of urban habitat.
Assessments and studies	Documents we prepared for insuring that hatchery programs didn't adversely affect listed stocks, developed management plan for harvest that ensured escapement of stocks, got projects to look into interactions between hatchery and natural stocks. Also created a framework for an estuarine/near shore habitat study subsequently funded. Participated in the WRIA 2514 process.
Assessments and studies	Don't remember
Assessments and studies	Fairly conclusive determination, a bit surprising because doesn't look like a natural hard area. So very interesting to find. But maybe not so surprising because bridge has been there, never washed out, since early 1900's.
Assessments and studies	Having those 10 points to refer to gives the County a framework to refer to for non-regulatory critical areas protection. Also having a plan like that in place gives us an opportunity to take advantage of funding sources that would have been otherwise unavailable.
Assessments and studies	Identification of projects.
Assessments and studies	Maintaining the two committees for each LE, and creating project lists
Assessments and studies	Modeling tool works pretty well. Cooperation was really good. The whole thing just worked well.
Assessments and studies	Outcome and the relevance of the hydraulic modeling was pretty telling. Got permission from most landowners, however did not hear from back from some.
Assessments and studies	Process was successful. When go onto private property trying to identify instream flows, very sensitive scenario.
Assessments and studies	Progress toward plans for specific restoration projects. Also the operation of the watershed council.
Assessments and studies	Ranking of existing habitats and rankings for potential restoration sites.
Assessments and studies	Their diversified committee
Assessments and studies	Very successful compilation of existing data and knowledge of limiting factors and factors of decline, and a very comprehensive list of potential actions for salmon recovery that will be evaluated and prioritized in on-going efforts.
Assessments and studies	Volunteer component. Project team did excellent job of pulling together an efficient project, getting volunteers and press coverage.
Estuarine/marine near shore	Involved community to volunteer and provided opportunity to educate
Estuarine/marine near shore	Removal of the barges

Project Type	Responses to Question D-5
Estuarine/marine near shore	Upland planting/emergent marsh were very successful
In-stream diversions	All of it. The whole thing came off quite smoothly. Multiple partners and a lot of cooperation from the water district.
In-stream diversions	Basic design.
In-stream diversions	Basic design.
In-stream diversions	Bypass operational overflow design was very good. Unique design.
In-stream diversions	Cooperative nature and assisting each other with design and implementation. And, a small amount of SRFB money produced a huge cost-share from the federal govt.
In-stream diversions	Coordination between a tribe and the organization that worked together on it.
In-stream diversions	Don't know
In-stream diversions	Incorporated a fish bypass and an operational (high-flow) spill area and that turned out really well.
In-stream diversions	Screening-out was successful
In-stream diversions	Strong partnerships.
In-stream diversions	Strong partnerships.
In-stream diversions	The alternative diversion (because it worked) and the removal of the passage barrier
In-stream diversions	The diversion itself was very successful; it's doing its job.
In-stream diversions	Used paddle-wheel hydraulics for the drive system, which is unusual, and it worked very well.
In-stream habitat	Channel reconfiguration and wood placement
In-stream habitat	Continuing to build on other related projects
In-stream habitat	Creating holding pool habitat and protecting the C-post bridge was successful. ELJ's appear successful
In-stream habitat	Creation of additional habitat for fish use and increasing complexity; design that was done; keeping the cost down by using LWD on site (from the flood plain)
In-stream habitat	Creation of spawning habitat and pools
In-stream habitat	Deep pools and LWD in the stream for adults and juv.; Increasing depth and reducing the width, of stream, properly functioning flood plain
In-stream habitat	Downstream connection works well, back waters at low flows and functions as a natural feature
In-stream habitat	Everything went just as planned, need good winter rain to really see how the system works; project has only been completed for one year

Project Type	Responses to Question D-5
In-stream habitat	Identification of and re-connecting needed oxbow habitat is "good bang for the buck"
In-stream habitat	Increased channel length-originally 750' of concrete channel, removed concrete and added an additional 250' of channel length; backwater areas created; creation of new habitat and spawning gravel, restored riparian corridor where previously did not exist or was limited, wetland areas created
In-stream habitat	Learned what design worked; each jam learned something different and lessons are continuing
In-stream habitat	Little positive about the project. Applicant has asked USFWS to do an audit of the project.
In-stream habitat	No answer given
In-stream habitat	Obtaining continuous wide buffer and fencing
In-stream habitat	Placement of in stream structures, plantings a phase thing taking longer to get established
In-stream habitat	Relocating thalweg away from landslide, increase in pool frequency; decreasing sediment loads from landslide; abundance of salmonids in the reach; recolonization of chum; juvenile utilization
In-stream habitat	The construction, development, and design
In-stream habitat	The log structure design, material quality and results all were successful
In-stream habitat	The matching project (riparian development) is going to be totally successful.
In-stream habitat	The mix of spawning gravel placed log placement
In-stream passage	Barrier removal and grade control structures to control cutting, provided nice resting pools below structure
In-stream passage	Being able to seal the stream to allow flow downstream from weirs
In-stream passage	City was grateful in high profile place, no cost to city, volunteers mobilized
In-stream passage	Construction and habitat restoration associated with the culverts. Project authority said the project was installed quickly
In-stream passage	Creating passage upstream
In-stream passage	Creating passage was successful
In-stream passage	Creating the passage, construction project went well, the revegetation was successful, more shade to protect the plants
In-stream passage	Culvert gone, now a natural channel
In-stream passage	Culvert replacement
In-stream passage	Design was successful because it passes both juvenile and adults

Project Type	Responses to Question D-5
In-stream passage	Engineering design and actual construction
In-stream passage	Finished stream bed-gravel choice was very important, bed functions naturally within passage and utilization is occurring
In-stream passage	Fish way was the key to meeting both groups interest
In-stream passage	General removal of the blockage was most successful; letting mother nature put in natural control structure
In-stream passage	Getting the tidal interchange into the slough
In-stream passage	Great new culvert, good plantings
In-stream passage	Log weirs
In-stream passage	Opening the barrier to passage.
In-stream passage	Passage removal most successful, in stream habitat-roughness, riparian, screen
In-stream passage	Protection of associated wetland features; avoidance of unstable soil areas; maintaining the riparian corridor
In-stream passage	Reducing impacts from hydropower.
In-stream passage	Reduction of risk of catastrophic failure of loosing whole road prism
In-stream passage	Removal of the culverts and allowing fish passage
In-stream passage	Restoring fish passage and habitat
In-stream passage	The accommodation of bed load movement through the culvert; prior to the project, bed loads inundated the passage and sediment did not move out of the box culvert, but now it does move downstream
In-stream passage	The stream velocity has been greatly reduced and the outfall of the previous culvert is vastly improved.
Riparian habitat	Bridge
Riparian habitat	Contractors developed some different mechanically planting techniques that have worked
Riparian habitat	Culvert replacement, plantings, elimination of sediment source
Riparian habitat	Cut and spray worked well for reed canary grass, stunted grass and gave other plants a fighting chance; additional cuttings around plantings; saved natives
Riparian habitat	Dealing with IAC/SRFB and landowners, planting success, high plant survival, demonstrates successful planting techniques; big trees big machines
Riparian habitat	Dealing with IAC/SRFB and landowners, planting success, high plant survival, demonstrates successful planting techniques; big trees big machines

Project Type	Responses to Question D-5
Riparian habitat	Fencing out the cattle
Riparian habitat	Fencing the livestock out of the stream
Riparian habitat	No one component, LWD and meander the big changes
Riparian habitat	Plant survival
Riparian habitat	Plant survival and fencing the cattle out really helped to restore the stream
Riparian habitat	Planting techniques
Riparian habitat	Providing side channel habitat
Riparian habitat	Riparian planting elements
Riparian habitat	Stabilization of the bank
Riparian habitat	Survival
Riparian habitat	The volunteer involvement was very successful. Establishing the site as an enhancement was successful. Getting the overstory species established was very successful.
Riparian habitat	The water that did irrigate the plants had a much higher success rate.
Riparian habitat	Use of willow staking to get initial cover developed was crucial. Use of jail crews was very successful
Upland habitat	All.
Upland habitat	Cross-drains
Upland habitat	Culvert placement and drainage ditch created met objective of dissipating storm water
Upland habitat	Installation of water bars, revegetation was successful, culvert replacement successful
Upland habitat	Made producers aware of just how much sediment could be saved. Minimized sediment transport.
Upland habitat	Number of follow-up seedings. People that made the change, and kept on doing it.
Upland habitat	The long-term direct seed approach
Upland habitat	Was great to see additional direct seed acres go in throughout the county that weren't directly related to this project and weren't eligible for cost-share. The farmers do see direct benefits of saved soil.
Upland habitat	Water bars, reconditioning and reconfiguring road beds, aggregate and riprap, replacing culverts, cleaning ditches and culverts, replacing and repairing catch basins, cutting and disposing roadway vegetation, reseeding disturbed areas
Upland habitat	Wheat yields exceeded expectations until project abandoned.

D-6 What were the keys to success? [This question refers more to other factors such as volunteers, a well-coordinated team, or a good contractor.]

Project Type	Responses to Question D-6: "What were the keys to success?"
Acquisition	1 - willing landowner; 2 - money for increased property value (trying to buy as multi-family residential, but comprehensive plan was designated as commercial)
Acquisition	Able to option timber rights and successfully get funding for it - WRIA willing to cross County boundaries, good watershed thinking, blind to jurisdictional lines - an organization was very helpful in working with landowners!
Acquisition	Able to option timber rights and successfully get funding for it - WRIA willing to cross County boundaries, good watershed thinking, blind to jurisdictional lines - an organization was very helpful in working with landowners!
Acquisition	Closing the deal on budget
Acquisition	Closing the deal on budget
Acquisition	Closing the deal on budget
Acquisition	Cooperation between participants and sellers - met a lot of divergent needs through the process
Acquisition	First time to move through this valley with eye towards property that would protect Chinook habitat, everything available, plenty of willing landowners. Due to one of the property owners, didn't need extra money or dairy farming property, timber companies would have to get permit to cut in the valley.
Acquisition	Good communication with property owners
Acquisition	High priority acquisitions that had been waiting for some time, so great to have them under public control now
Acquisition	Kept adjacent properties from being developed from a different use, therefore keep the processes in place, great acquisition officer to work with appraisers to get lower-scale appraisers and work with property owners to make deals happen
Acquisition	Multi-jurisdictional involvement very significant for this project, and SRF Board kick started this deal
Acquisition	None
Acquisition	Partnerships, and combination of funding was particularly successful, leverage both state, private, and local funds to complete the acquisition
Acquisition	Several agencies working together
Acquisition	Successful in getting partnerships to work on this scale of a project.
Acquisition	Successful in that organization could use acquisition for protection
Acquisition	Willing landowners
Acquisition	Working in conjunction with the land conservancy. By themselves, we couldn't buy the land, with conservancy's help we could. Also helped with the negotiations.
Assessments and studies	Being able to work closely with the planning commission and the watershed councils.

Project Type	Responses to Question D-6: "What were the keys to success?"
Assessments and studies	Collaborative effort, lots of jurisdictions were involved. Really managed by committee, not just by me, so had a lot of brainpower. Lots of jurisdictions were motivated, willing to be there and help.
Assessments and studies	Communication with the consultant. Consultant was excellent.
Assessments and studies	Contractor and landowner involvement
Assessments and studies	Desires to have the equipment and good communications by all parties involved.
Assessments and studies	Did extensive advertising of the position, were able to get a really good person to fill it.
Assessments and studies	Effort that field team put into working with the landowners, and landowner cooperation letting us onto properties.
Assessments and studies	Gave us a baseline. Pulled in a biologist, pulled in private geomorphologist who worked together on the reach-by-reach, used experts for water quality. Used folks who knew what to do and what to look for. Used certified labs so everything backable.
Assessments and studies	Giving us money was the key to success
Assessments and studies	Good staff, technical committee was very dedicated and committed. External funding was key to success -- without the grant, wouldn't have been able to do the same scale of project or be as successful. Consistency of staffing and resources throughout was key.
Assessments and studies	Had very good technical committee and consultant.
Assessments and studies	Hiring a qualified consultant.
Assessments and studies	Hiring the right consultants was key. Wrote a report that is very clear and understandable.
Assessments and studies	IAC/SRFB project manager was very cooperative in terms of allowing us to delay the project to get the best data that was available.
Assessments and studies	Leadership that project staff showed. They're the ones who did all the logistics, volunteer coordination, made sure the materials were on site, etc.
Assessments and studies	People made it successful.
Assessments and studies	Persistence and stubbornness.
Assessments and studies	Presence of an on-going watershed council for key watersheds.
Assessments and studies	Put a hell of a lot of time into it, both in terms of contacting and meeting with landowners one-to-one at their convenience. That's why it worked. Also worked extremely closely with the consultant to ensure the final product was exactly what we were looking for.
Assessments and studies	Really good support from project staff. Being able to integrate really closely with the lead entity.
Assessments and studies	Staff at the various entities were very committed, showed a lot of perseverance. Staff was very good to work with, very responsive to our needs.
Assessments and studies	Strong organizational structure
Assessments and studies	This money was the key.

Project Type	Responses to Question D-6: "What were the keys to success?"
Assessments and studies	Trying to be pretty open, adapt to changing conditions (both weather and people), having expectations but not being driven by that so much. Let the process work itself through, be flexible. Having a number a people taking an ownership role.
Assessments and studies	Way we laid out the final RFP.
Estuarine/marine near shore	Partnerships, participation on a local level, support from landowners in the vicinity
Estuarine/marine near shore	Quality of design and construction/interdisciplinary team/close coordination with resource government agencies
Estuarine/marine near shore	Utilized experienced partner (Noxious Weed Board); problem was identification before coordination, and now there are proven methods to use
In-stream diversions	And working with landowners.
In-stream diversions	Constructed an access road for moving excavation and construction equipment. Partnership with multiple groups.
In-stream diversions	Cooperation of project participants.
In-stream diversions	Flexibility of both the SRFB process and a project participant.
In-stream diversions	Good management and coordination.
In-stream diversions	Good planning and cooperation.
In-stream diversions	Good planning and coordination.
In-stream diversions	Good planning and good cooperation with irrigators and local vendors.
In-stream diversions	Good planning.
In-stream diversions	Irrigator cooperation
In-stream diversions	Landowner was allowed at every stage to be involved in design and implementation (he doesn't get water if the screen isn't working and he thought that was helpful)
In-stream diversions	Landowners willing to try innovative water conservation measures.
In-stream diversions	Quality of contractor's work.
In-stream diversions	Strong partnerships with state, federal and local agencies, as well as local citizens
In-stream diversions	Strong partnerships with state, federal and local agencies, as well as local citizens
In-stream diversions	Technical advice from project participants, as well as landowner flexibility.

Project Type	Responses to Question D-6: "What were the keys to success?"
In-stream diversions	Willingness of a project participant to work with private landowner.
In-stream habitat	A lot of input from tribe, twenty years of knowledge; design input, contractor experience, fantastic job followed plan, adaptable; mandatory prebid walk-through, some contractors said not enough $, very valuable exercise to eliminate potentially unsuccessful bidders, awarded to low bid with expertise
In-stream habitat	Coastal horizons (contractor)-experienced contractor and consultant
In-stream habitat	Collaboration; low risk project; led to good relations with neighboring land owner next to tribe's land; conducting the re-vegetation work with a middle school where many of the tribes younger members go to school; teaching stewardship
In-stream habitat	Collaborative approach, good relationship with private land owner
In-stream habitat	Cooperative landowner-allowed the fencing-off of a wide buffer along the stream and for a long, continuous distance
In-stream habitat	Excellent staff restoration crew (been together since 1994).
In-stream habitat	Failure of the project needs to be assessed.
In-stream habitat	Great construction team
In-stream habitat	Group partnership and cooperation was important. Engineers' design of the project was coordinated with initial biological evaluation. The components of the project were integrated.
In-stream habitat	High level of communication between project parties, two major agencies, crew, volunteers; getting clear project vision and objectives among members; close oversight during construction with mangers
In-stream habitat	Land owner cooperation, knowing community members,
In-stream habitat	Landowner agreements to get access and do the project; got the wording changed so landowners are not held liable for anything related to the project
In-stream habitat	Landowner cooperation, proactive
In-stream habitat	Partnerships were key to success; good contractors and engineers
In-stream habitat	Partnerships were key.
In-stream habitat	Project participant initiative; they wanted to get involved with this project and another entity got involved too with SRFB funding
In-stream habitat	SRFB $ for riparian planting two funding sources great to work with, design team and technical backing; cooperative landowners who support for projects to create functioning stream system resulting in fish utilization
In-stream habitat	The contractor and the hydrologist worked very well together
In-stream habitat	They did very good site preparation before planting and planted species adapted to the site, and provided protective tubing to allow the plants to get established.

Project Type	Responses to Question D-6: "What were the keys to success?"
In-stream passage	Active citizens group kept momentum going
In-stream passage	Careful engineering and advice by engineers; lucky to have a good contractor (but expensive)-skilled with preserving areas outside of project boundaries, did not look like a project had been recently done afterwards
In-stream passage	Close monitoring, construction management for a sensitive project
In-stream passage	Cooperation with landowners and utility; working with government staff and private consultant, teamwork among parties
In-stream passage	Cooperation with landowners, good team work among players
In-stream passage	Credibility built from previous projects via contractor with landowner, citizens, and agencies
In-stream passage	Differentiating between fish destined for the Baker and those that just strayed into the trap.
In-stream passage	Excellent example of homeowners receiving what they wanted as well as project participant; both parties goals were met
In-stream passage	Fostered project participants leading to one entity completing on their own identified/prioritized barrier projects.
In-stream passage	Good community involvement; contractor was very good, able to work well at solving problems
In-stream passage	Good planning and design, experienced contractor
In-stream passage	Good team, landowners, project staff and SRF staff-kept everyone working together, One project participant worked another entity to get the permits in the end to get concurrence letter
In-stream passage	Good teamwork-designed and inspected construction-continuity; contractor did a good job
In-stream passage	Having a good project manager who knew streams
In-stream passage	Landowner cooperation and good crew
In-stream passage	Lots of money. The project was over designed to accommodate a wide range of flows.
In-stream passage	Money. Cooperation with tribe.
In-stream passage	Opening the stream to reduce velocities. Collaboration between the three agencies was important. Team concurs here
In-stream passage	Our contractor; having the timber company taking an interest and having pride in this project
In-stream passage	Partnerships and coordination with project participants
In-stream passage	Partnerships and working the engineer and contractors. Used displaced loggers to build the weirs, this was very successful
In-stream passage	Partnerships, volunteer monitoring
In-stream passage	Proper installation

Project Type	Responses to Question D-6: "What were the keys to success?"
In-stream passage	The partnerships and working with the engineer and contractors
In-stream passage	With good design team, technical, and constructions folks; difficult install, construction group did an excellent job
In-stream passage	Working with volunteers is a key part to collecting the data at this site.
Riparian habitat	Availability of project participant out of their office, landowner cooperation; lots of handwork by landowner.
Riparian habitat	Availability of the jail crews. Willing landowners was important. Good organized planting prescriptions. Good site preparation planning. Site preparation work (e.g. repair and amending open and exposed soil after dredging; remove invasive species). Used a lot of grass in the site prep to establish early and prevent reed canary grass from starting first.
Riparian habitat	Consultant planning was very experienced and contributed to partial success
Riparian habitat	Dike removal was key
Riparian habitat	Funding and access to crew
Riparian habitat	Good contractors willing to troubleshoot
Riparian habitat	Good design and specs.; all culverts were much bigger
Riparian habitat	Had lots of expertise in-house; went smoothly
Riparian habitat	In-kind contributions of materials and labor and volunteer support, partnerships (interagency as well as inter-city)
Riparian habitat	Proactive group, funding ($2/tree)' get people to support the cost of planting for areas with nothing growing
Riparian habitat	Proactive group, funding ($2/tree)' get people to support the cost of planting for areas with nothing growing
Riparian habitat	Repairing the water line was important.
Riparian habitat	Simplicity, great volunteers
Riparian habitat	Very cooperative landowner
Riparian habitat	Volunteer success was from the regional volunteer program, and partnerships. This involvement helped develop public acknowledgement that the site was a restoration site. The city owned the site to begin with (but caused some other complicating factors).
Riparian habitat	Volunteer support, partnerships with other agencies
Riparian habitat	Want to stress landowner cooperation and relationship with the landowner, was able to cover a lot of the cost (mature trees); an engineer with experience designed this project; complexity of the streambed for fish improved considerably pools and eddies, reduction in sedimentation
Riparian habitat	Working with the landowner and volunteers; cheap plants through the CD
Riparian habitat	Working with the landowner; crew for planting and fencing work

Project Type	Responses to Question D-6: "What were the keys to success?"
Upland habitat	An entity had completed systematic inventory of the problems (road deficiency survey in 96 and 99), so project was locally accepted (not controversial). They had the technical capacity for engineering--people were well acquainted with the problem and the appropriate solutions. Shepherding of the project by entity made it all go smoothly, and entity provided contract documents that helped with soliciting accurate bids from the contractor. Contractor is very experienced in working with them and with the techniques. Working as a non-profit, the sponsor had low overhead and were able to mobilize very quickly, and they have good relationship with SRFB and other partners, as well as with local work crews.
Upland habitat	An entity had completed systematic inventory of the problems (road deficiency survey in 96 and 99), so project was locally accepted (not controversial). They had the technical capacity at for engineering--people were well acquainted with the problem and the appropriate solutions. Shepherding of the project by entity made it all go smoothly, and entity provided contract documents that helped with soliciting accurate bids from the contractor. Contractor is very experienced in working with them and with the techniques. Working as a non-profit, the sponsor org had low overhead and were able to mobilize very quickly, and they have good relationship with SRFB and other partners, as well as with local work crews.
Upland habitat	Getting people to do it was key, particularly to get fertilizer dealers on board, who had equipment.
Upland habitat	Getting the cross drains in the place where they were designed to be.
Upland habitat	Giving them a little bit of monetary boost to initiate the transition. Gives them the ability to do it so sediments stay in place. Equipment change is a horrendous cost.
Upland habitat	Good contractor, and relationship with landowners
Upland habitat	Landowner was a leader, interested in changing. But in the end it was not successful because it was bought out
Upland habitat	Project participant personnel were very knowledgeable, knew how to make project efficient. Knew how to accomplish their goals, had intimate knowledge of conditions.
Upland habitat	Relationships built with landowners and their understanding that CD offered incentive payments, which allowed them to try something different that they wouldn't otherwise have tried.
Upland habitat	Relationships built with landowners and their understanding that CD offered incentive payments, which allowed them to try something different that they wouldn't otherwise have tried.

D-7 What difficulties did you encounter in design and implementation of the project?

Project Type	Responses to Question D-7
Acquisition	1 - willing landowner; 2 - money for increased property value (trying to buy as multi-family residential, but comprehensive plan was designated as commercial)
Acquisition	Already offers on the property for major industrial development, need to separate 2 waterside properties from a warehouse, Alternatives very limited if deal fell through, uncertainty of funds being approved
Acquisition	Complicated acquisition with landowner complications
Acquisition	Didn't ask for enough money initially, but also didn't anticipate that property would cost as much as it did
Acquisition	Difficulties with purchase (unwilling seller), so bought property adjacent to that
Acquisition	Issue with Environmental Site Assessment, bridge on the upland side of the property, had to be removed, and soil testing to be sure no soil contamination (all resolved prior to closing the deal)
Acquisition	Landowner refused to sell original parcel at appraised value. Another agency was able to purchase (not mitigation funding).
Acquisition	Length of time, difficulty in getting multiple property owners to be willing to sell and coming to purchase price
Acquisition	No
Acquisition	No
Acquisition	None
Acquisition	None
Acquisition	None
Acquisition	None
Acquisition	Old trailers and cars were left on property should've been removed before acquisition. More do diligence on the front end. Variety of recreational users to control in order to manage the site for its original intended use (motor bikes, off-road vehicles, hunters, meth lab, mountain bikers) deed states that no "active" recreational uses of this property are allowed, but "passive" recreation is (how is this defined?)
Acquisition	Pulled out 4 small house lots taken out of acquisition because property owner had unrealistic expectations (wanted more than could be paid) - still sit undeveloped
Acquisition	Persuading landowner, originally wanted $4M, so settled on something less
Acquisition	Smooth sailing.
Acquisition	Yes. Abandoned buildings that must be eventually cleaned up.

Project Type	Responses to Question D-7
Assessments and studies	Actually getting IAC and SRFB to act in a timely fashion -- had trouble making decisions about near shore projects. They held up the process.
Assessments and studies	Differences in values among stakeholders, difficulty translating scientific information into a decision-making framework. Scientists often wanted to move forward, but that wasn't sufficient to ensure political support for funding and implementation.
Assessments and studies	Don't know of any.
Assessments and studies	Geomorphologist was above anybody (personality issues).
Assessments and studies	Getting participation from all that we had anticipated (small cities, about half a dozen of them). Length of time it takes to review consultant products internally.
Assessments and studies	Had to go for outside help for hydrologic modeling and support. Not so much difficulty, but just an obstacle that we remedied. Maybe collaboration with the landowner, which was a very positive thing, but he changed his mind several times.
Assessments and studies	None
Assessments and studies	None
Assessments and studies	None
Assessments and studies	None
Assessments and studies	None. All technology development occurred before seeking funds.
Assessments and studies	Normal bureaucratic red tape, people that deal in forms and rules and accounting.
Assessments and studies	Not enough state guidance on strategies.
Assessments and studies	One year, had to get a bulldozer to plow snow so could access site. Other than that, pretty much went as expected.
Assessments and studies	Pretty straightforward. The only practical issue was gaps along the stream corridor where we didn't have permission to survey. Other than that, went reasonably well.
Assessments and studies	So many unknowns, and it was very hard to extrapolate from data about pristine watersheds and apply it to habitat in an urban area. Another challenge was getting a room of 20 people to agree.
Assessments and studies	Some disagreements within technical committee about using a model to rank habitat led to trouble down the road.
Assessments and studies	There were different expectations. Some wanted a map with parcels identified, and others absolutely wouldn't countenance that. So during the course of putting the plan together we had to figure out how to do it so that it would actually work but not terrify the public or the people with responsibility for deciding whether it would work for the County.
Assessments and studies	Total scope of how many sites and still come within budget. Done in the early funding process when they were giving out funds more as a block grant, more flexibility. Less design work up front. That's where the hang-ups are. Laying it out to the T early on would have solved it, but don't like to go out to landowners without money in hand.
Assessments and studies	Tremendous difficulty moving from discussion to production of the document. Diversity of views and opinions leads to lots of negotiation and debate.

Project Type	Responses to Question D-7
Assessments and studies	Trying something so very new at a time with high anxiety was a challenge.
Assessments and studies	Trying to identify appropriate staff to backfill the activities of those who were most knowledgeable so those knowledgeable staff could do this work.
Assessments and studies	Very hard to find a good habitat biologist who is willing to spend as much time in the office as the position requires, and is able to run the gamut of personalities that comes with dealing with citizens, committees, etc.
Assessments and studies	Wasn't there for original set up.
Assessments and studies	We had difficulty even identifying the contact people at the Lead Entity -- their involvement was very disorganized.
Estuarine/marine near shore	An entity fulfilling their end of the project agreement related to billing and construction
Estuarine/marine near shore	Contaminated soils/HPA permit required negotiation to allow placement of fill to support the outer bank
Estuarine/marine near shore	Use of herbicides court decision, confounded chemical use
In-stream diversions	Access trouble, which influenced design and implementation. Snow in winter prevents access in that season. Very steep and roads are bad or non-existent.
In-stream diversions	Coordination with the hatchery folks. There's an acclimation pond that also uses that intake. This was different that other projects.
In-stream diversions	Didn't really know what was in the ground (no drawings for original dam), pipes were built into dam and concreted over so they didn't know where they were and they wanted to tie into the existing mainline irrigation that left the property
In-stream diversions	Don't know
In-stream diversions	Don't know
In-stream diversions	Don't know.
In-stream diversions	Having to move back to the alternate site - was perched on a cliff.
In-stream diversions	Major difficulties were meeting deadlines: getting planning done and getting all necessary permits.
In-stream diversions	No
In-stream diversions	No difficulties on this project.
In-stream diversions	One of difficulties was that there were multiple phases of a ditch-lining rehabilitation occurring at the same time. They set the elevation of the pipe higher than they should have and it affected the amount of water passing through the screen. We had to make up for that.
In-stream diversions	The owner didn't understand that the minute they turned in a bill they wouldn't get paid. This was one of the main pitfalls.

Project Type	Responses to Question D-7
In-stream diversions	Third-party landowners.
In-stream diversions	Two entities decided screened infiltration gallery was problematic
In-stream diversions	Uncertainty of future funding to fund different phases of the project.
In-stream diversions	Uncertainty of future funding to fund different phases of the project.
In-stream habitat	1. Logistics of locating and bringing wood was a problem to get into the site. 2. Permitting was slow, 3. Funding for monitoring was difficult. 4. Keeping the team members integrated through communication has been difficult at times.
In-stream habitat	Communication between engineers, contractors, landowners, and PM
In-stream habitat	Design-drawing all by hand, time consuming for changes and revision, next time require CADD; implementation-permits ready when contractor hired, experience with similar projects; good contractor very significant, HPA good through 9/15 fish returned three weeks early, needed to be done by 8/30 instead, contractor got out earlier; good job informing the public and alerting them about heavy equipment
In-stream habitat	Difficulty was the project lead was physically far removed so overseeing the project by the applicant was difficult at best. Communications with the PM were extremely difficult.
In-stream habitat	Due to high level of fines being deposited needed higher level of maintenance; some difficulties with personality of the land owner, issues of fecal coliform from the landowners cattle
In-stream habitat	Getting the equip down to the river bank without scarifying the area
In-stream habitat	Getting the rock, hard to get; dealing with the public perception regarding cost,; cost per foot $18-30 which competes in public mind with school funding and other more local $ needs; try to be cost effectiveness and dealt with public perceptions successfully
In-stream habitat	Institutional complexity between agencies cost money-administrative costs
In-stream habitat	No
In-stream habitat	None
In-stream habitat	None
In-stream habitat	Only implementation-getting the concurrence on the BA with Federal agencies
In-stream habitat	Permitting a restoration project in the flood plain
In-stream habitat	Permitting delayed the progress of the project
In-stream habitat	Piping related to the well; had to adapt but all went well
In-stream habitat	Poor availability of wood needed for the wood jam design. He thinks we don't know very much about placing woody debris and that probably needs more observation before making a design.
In-stream habitat	Pre ESA; getting wood with root wads of right size and reasonable cost, not enough $ for wood

Project Type	Responses to Question D-7
In-stream habitat	Range of opinions of what to do. Speaking with three or four experts resulted in multiple opinions.
In-stream habitat	Regulatory requirements with NMFS/NOAA
In-stream passage	Challenge was having a large head differential between up and downstream of the blockage, gravel selection important in final design to tolerate range of flow conditions
In-stream passage	Contactor backed out and had to find another contractor
In-stream passage	Don't know
In-stream passage	I-5 is ~20 feet d/s of project site; had to work with WSDOT, challenging to work with them on improving passage underneath I-5 (not under the scope this project, but related)
In-stream passage	Initially coming up with a solution to meet both groups needs; once both groups agreed and started working together the project went smoothly
In-stream passage	Institutional problem, conflict with town who did not want access restored, took several years to resolve legal issues affects of higher profile fish species
In-stream passage	Logistics of working with unstable soils, existing utilities, landowner wishes
In-stream passage	Making sure the stream bed was sealed and working with one land owner who has some landscaping issues
In-stream passage	No problems.
In-stream passage	No real problems; bridge was heavier than anticipated
In-stream passage	No, went fairly well, one minor flood occurred before the project some wash-out of initial work
In-stream passage	None
In-stream passage	None
In-stream passage	None
In-stream passage	None
In-stream passage	None, it went pretty smoothly.
In-stream passage	None.
In-stream passage	Nothing major
In-stream passage	Permitting was delayed and had to do construction as flows were coming up which increased cost and complexity (extra pumps)
In-stream passage	Permitting was only project snag
In-stream passage	Small work window to get the project going

Project Type	Responses to Question D-7
In-stream passage	Soils a problem, block support structure originally planned but soil would not support, required a redesign, cost more but was covered under grant, remobilized design crew and permitting agencies, redesign within a week, adapted to an unanticipated condition on the ground
In-stream passage	Some substandard ground materials for the pre-caste. Ground below was clay.
In-stream passage	The project had to be redesigned after initial design. The designs were not fully adequate after revisiting the project. Error by the design consultant.
In-stream passage	Very narrow fish window; Cedar River WQ compliance requirements
In-stream passage	When re-vegetated CD did not implement maintenance to increase survival; CD is supposed to replant in next year
Riparian habitat	As originally envision, much larger portion of levee was originally removed, could not get landowner access to one monitoring site
Riparian habitat	Construction contractor on-site was green; project manager had to act as leader; remote access was difficult; concrete separated in transport along with trail
Riparian habitat	Couldn't get the plant stock listed in the planting plan. Needed to trade out some species due to the city parks preferences and concerns. The understory species did not survive well in the current conditions.
Riparian habitat	Designed well, implemented well, natural and environmental factors biggest detriment to the project
Riparian habitat	Elk eating the seedlings
Riparian habitat	Implementation-the size; project was quite large, plus it was on a public golf course so couldn't close off the site while doing the work
Riparian habitat	Just getting the number of trees acquired and coordinating plantings
Riparian habitat	Just getting the number of trees acquired and coordinating plantings
Riparian habitat	Logistics of locating and placing the bridge structure
Riparian habitat	No difficulties
Riparian habitat	No, just waiting on timing, no permits needed, project pretty straight forward
Riparian habitat	None
Riparian habitat	None
Riparian habitat	Nothing more than usual
Riparian habitat	Required regulatory changes in the design to please permitting agencies
Riparian habitat	Scope change because of timing
Riparian habitat	There was a disconnect between the planting design and the needs to allow maintenance. There was much more damage needing repair than expected.

Project Type	Responses to Question D-7
Riparian habitat	Upland part of the riparian plantings was hard to get them to re-establish
Riparian habitat	Very difficult and time consuming to control and remove invasive blackberry. Beavers damaged some of the plantings. Implemented beaver protection to deter the beavers from eating the plants. Late cold spell delayed the planting season.
Upland habitat	If do again, will look at larger % of cost-share because the ones we're left with cannot make economic transition. Also would like to support the ones that keep the practices in place.
Upland habitat	None
Upland habitat	None
Upland habitat	None that the contact was aware of.
Upland habitat	Not really.
Upland habitat	Not really. Some limited equipment, so some people had to wait until it was available.
Upland habitat	Out of landowner's control--baseball field, brother's unwillingness to continue.
Upland habitat	Sometimes the landowner wanted to fish more than he wanted to work
Upland habitat	The project was so far away from their office. It was an all day trip to get there. Early snowfalls the first year caused lengthening of schedule.
Upland habitat	Very little, just accounting (getting landowner to submit bills on time, etc)

D-8 What lessons did you learn from the project that would be helpful to future project applicants?

Project Type	Responses to Question D-8
Acquisition	Acquisition process can take quite a bit of time. Two appraisals…
Acquisition	Build in more time, account for in-kind contributions
Acquisition	Develop partnerships to leverage multiple sources of funds to complete the acquisitions
Acquisition	Develop relationship with local appraisers to speed up acquisition process
Acquisition	Doesn't just happen, but took an ongoing long-term program where property had been assessed and identified, relationships built, work had been done ahead of time
Acquisition	Ended up acquiring 697 acres in total - surprised by extent of existing public recreational use on this property - a lot to control. Can't get property this large, and that you can sit on it. Be prepared to manage it. Establish a presence (e.g., uniformed people). Because 2-3 siblings that have a right to live there until death. This restricts rights to this land for a period of time. Be sure that you know of life estates, etc., and have adequate access to the site (e.g., that it doesn't lie under someone else's control), and restricted public use of site.
Acquisition	Ended up acquiring 697 acres in total - surprised by extent of existing public recreational use on this property - a lot to control. Can't get property this large, and that you can sit on it. Be prepared to manage it. Establish a presence (e.g., uniformed people). Because 2-3 siblings that have a right to live there until death. This restricts rights to this land for a period of time. Be sure that you know of life estates, etc., and have adequate access to the site (e.g., that it doesn't lie under someone else's control), and restricted public use of site.
Acquisition	Even with a willing seller, acquisitions are never a real thing until the deal is closed. Therefore it would be ideal to locate multiple parcels within the designated areas.
Acquisition	Extremely costly to buy land in urbanized areas. Acquisitions should be focused on rural areas with better habitat, and lower property values.
Acquisition	Form good working relationships with local appraisers - really speeds up the acquisition process.
Acquisition	If you want to purchase property, go out onto property with owner, talk over your plan, often can be very open to salmon recovery options, open to getting paid to help out.
Acquisition	Involve the property owners early on the acquisition process
Acquisition	Land acquisition is the basis for restoration projects, so projects must go in this sequence. Work out partnerships and sequencing at beginning of project.
Acquisition	None
Acquisition	Persistence pays off
Acquisition	Pull together a multi-jurisdictional project team; keep perspective of WRIA-wide project, not jurisdictionally bound.
Acquisition	Survey property before acquiring; incorporate survey costs into grant proposal. Really look objectively at property (e.g., personal property items removed, trespassing).

Project Type	Responses to Question D-8
Acquisition	Try to develop a relationship with an appraiser to evaluate how much you should be asking for, spend time developing relationship with landowner
Acquisition	When you're changing the land use of a property - particularly from agriculture to habitat, stop cultivation - be prepared for controlling noxious weeds
Assessments and studies	Be realistic about your expectations, especially if it's a sensitive topic. Private property rights people were completely freaked out.
Assessments and studies	Communicate, communicate, and communicate! That's what I learned from them. Staff from IAC was fantastic, patient, thorough, and timely. I hope I was the same in return.
Assessments and studies	Don't give up!
Assessments and studies	Don't know (wasn't project manager)
Assessments and studies	Finding the right person is really key.
Assessments and studies	Generally, more specificity in objectives and expected outcomes would be helpful.
Assessments and studies	Get active involvement from contractor who is building machine. NRCS supported it; everyone wanted to know how to make trees grow in cobbles.
Assessments and studies	Get technical committee members to agree that a model can work before you start creating the model.
Assessments and studies	Give them enough money
Assessments and studies	If people don't have a baseline-monitoring plan, IAC should develop a template that helps all the different types of project applicants to create some uniformity. Something that goes along with the project agreement to make it a little bit easier. Some of the monitoring expectations seem to go a bit beyond what I'd imagine we'd do. If monitoring requirements ever got to that point, we'd probably stop applying for salmon grants because we're not qualified.
Assessments and studies	Importance of having a clearly identified scope and deliverables. Put the thought into things ahead of time.
Assessments and studies	Just do it. Yields a lot of information.
Assessments and studies	Let the land tell you what it needs. Talk to the people that know the land, rather than bringing in lots of experts who give you a statistical understanding. Ask the people how the river has changed in space and time, how it rises in flood. Appreciate everyone's perspective.
Assessments and studies	Manage your expectations, and manage the project with a small group. Think hard about what you want to get out of it.
Assessments and studies	None
Assessments and studies	Nothing is static, not even the process. SRFB wanted to make this assessment the model assessment that people could use, asked us to add more surveying, etc. The next year when we applied for more funding (original was a pilot) they said they didn't want all that extra stuff. So no consistency, and they seemed to make no connection between near shore and salmon.
Assessments and studies	Provide more guidance
Assessments and studies	Read and follow directions closely.

Project Type	Responses to Question D-8
Assessments and studies	Restoration planning was a lot more complex than originally thought.
Assessments and studies	Sponsor will not pursue any more of these projects because we don't have the ability to raise or obtain matching funds. The current grant guidelines are more suited to governments or non-profit lead entity types that can raise their own matching funds. We couldn't raise enough contributions to meet our match, so we had to donate our own labor.
Assessments and studies	Strong leadership is essential. Stakeholder community should be engaged in the content decisions, but not in the process decisions. Leadership should define process.
Assessments and studies	The amount of time that's involved securing permission from landowners for a fairly straightforward project-- lots of time involved in dotting the I's and crossing the T's.
Assessments and studies	Try to lay it out better at the beginning in terms of number of sites to accomplish. We accomplished what we wanted to but modeling is real spendy.
Assessments and studies	Using stakeholder committees effectively to contribute to content is critical, but staff should develop the process in advance. Project showed that planning could be done, so that success story was important to other groups in the region.
Assessments and studies	Value of collaboration, pooling resources to create efficiencies.
Estuarine/marine near shore	Focus on quality design and interdisciplinary team; good landscape architect knows how to integrate interdisciplinary team into construction documents
Estuarine/marine near shore	How to work in estuaries; working hours are driven by the tides, need to consider changes to activities introduced by the different ecosystem (tidal influences mainly)
Estuarine/marine near shore	More technology is available (GIS, aerial photos) for better mapping
In-stream diversions	1) Be as informative as possible to landowners within the project area, by describing the project's purpose and objectives, and by keeping them informed throughout project construction. 2) When preparing the project budget in the application, keep in mind inflation - and potential cost increases between the time of project application and project starting date.
In-stream diversions	Don't know
In-stream diversions	Good coordination with others involved.
In-stream diversions	Having good communication and coordination with the irrigators is essential to the success of such projects
In-stream diversions	In terms of irrigation easements, you can’t do anything that you want to do. We thought we could go in within the easement and build the facility. But, since a third party owned the property, there were more difficulties. (A private landowner owned the property and a ditch company had the easement.)
In-stream diversions	Learned more what SRFB wanted to see (regarding reporting, bid requirements and the use of public funds for private projects - Davis Bacon Act) and the challenges of accounting on a grant project
In-stream diversions	Need closer coordination with other parts of the project that are being completed separately.

Project Type	Responses to Question D-8
In-stream diversions	Need to understand how the whole process works, particularly in regards to money transactions (the property owners).
In-stream diversions	Nothing specific
In-stream diversions	Permit process and regulatory process. For example, COE couldn't take money to build it, so WDFW built the screen and gave it to them. Difficult to provide money from one government entity to another. (COE doesn't have mechanism for receiving cost-share $).
In-stream diversions	The design of a modular system that could be used for remote locations. Learned that you can do this type of difficult design at a reasonable budget.
In-stream diversions	We thought we could go in within the easement and build the facility. However, because a private landowner owned the property, there were more difficulties. We initially believed that because the ditch company had the easement, it would be simple to do but there were many more difficulties that we had planned because of the third party landowner. In terms of irrigation easements, you can't do anything that you want to do.
In-stream habitat	Again, make sure develop good partnerships
In-stream habitat	Dig them in deep; learned a lot from staff about how to build log jams; hire someone if you don't know what you are doing, money well spent
In-stream habitat	Engage the stakeholders in developing the project (make them partners); having one larger landowner for the whole reach made it simpler; DNR was very cooperative with getting a cooperative use agreement
In-stream habitat	Get on the ground floor with the neighbors; identify problems early on in the project
In-stream habitat	Getting a federal nexus involved via ESA, didn't have to do that work themselves based on the agencies taking care of all the permitting
In-stream habitat	Importance of partnerships, good design, contractors
In-stream habitat	Important to maintain adequate communications throughout all aspects of the project with the project lead.
In-stream habitat	In stream restoration is viable alternative and makes positive impact to habitat
In-stream habitat	Learned lots of small and large lessons. 1. Shifted the river initially into a smaller channel that resulted in sedimentation downstream. Could have been a better correspondence between amount of water shifted and the channel size. Shifting the water in a more gradual manner would have been better. Don't need to dewater the shifted channel. 2. Tagging the logs for the wood budget showed some tags work better. Colored tags fad in the sun. Round hard aluminum tags work well. 3. Videography lighting showed best techniques for less refraction and best lighting. 4. Periphyton sampling showed new and better techniques. 5. Re: wood, get logs into the site without cutting and gluing back together; more logs put perpendicular and more fill was required to stabilize the LJ's.
In-stream habitat	Limit multi landowner projects, be good with your communications, material stockpiling ahead of time
In-stream habitat	Many lessons. 1. Quality of the wood is critical. Must get high quality big wood - bigger than you can handle 60" and 65'. 2. Experienced installation crew is critical. 3. Well-integrated design team, not just engineers. 4. Attention to revegetation is very important. 5. Land owner relationship is important. Help them fully understand and support what you're doing. 6. Have monitoring design ready to go. 7. The monitoring is a huge undertaking. The monitoring is in a way bigger and longer than the project itself.
In-stream habitat	Need to learn what we can do with machines as opposed to using manual labor. Can get more restoration for the money spent if done as fast as possible. Also need to look at the bigger picture. This project was affected by an old railroad bed and should have been looked at to be removed to establish the flood plain.

Project Type	Responses to Question D-8
In-stream habitat	None mentioned
In-stream habitat	On the landowner agreements, getting the contract jargon changed to not hold the landowners liable
In-stream habitat	Public relationships important, need to get all parties to understand technical issues, producing a project that meets or exceeds technical expectation, having local understanding on-board vs. regional/federal understanding-sometimes differs between parties
In-stream habitat	Put together monitoring plan and actually implement it among parties; post project follow thorough important-figure out up front and follow through
In-stream habitat	Sale of the property can effect success of the project due to new owner
In-stream habitat	Take more time to talk with neighbors downstream to make sure they know what is going on and recognized that the project is to benefit stream not create a problem; use CADD drawings instead of hand drawings
In-stream habitat	Work independently so are not constrained by agencies; when working with landowners make sure the landowner is always "even or ahead" by the end of the project than they were before the project began
In-stream passage	1. Learned what to look for in the project 2. What to expect from a consultant, 3. How to deal with ESA
In-stream passage	Be patient when working with and coordinating large projects that involve numerous stakeholders
In-stream passage	Bring in a group that does stream restoration early. They looked over our shoulder, made some good suggestions.
In-stream passage	Design and implementation, the less you try and control, the better off you are LWD example
In-stream passage	Directly able to observe that fish when into the trap that were not destined for the Baker. Removed them and increased their survival.
In-stream passage	Don't know - wasn't PM during construction
In-stream passage	Expected the bridge decking to be in a little better shape; budget was needed for re-decking the railcar bridge
In-stream passage	For fish passage piece - no lessons. For habitat work- ensuring what ground water level is during dry winter would help the channel design be more successful-plan channel for extreme variables regarding flow
In-stream passage	Get permits lined up; expedited permit process has helped; timing-get things done before fall rains show up
In-stream passage	In situations with high head differential be careful with bed design and consult with WDFW; excellent demonstration of stream simulation method, probably the best method for long-term benefit for habitat and passage and low long-term maintenance
In-stream passage	Increase your bridge spans and work in the dry. The precast concrete is easy to put in. Price for these bridges is also reasonable.
In-stream passage	Insist upon a geotechnical report
In-stream passage	Learned techniques in stream bed sealing, learned to get a signed agreement with land owners on costs up front
In-stream passage	Limitations with geotech fabrics; retrofitting a old box culvert-how to stabilize at-risk structures; challenges with supporting the box culvert while digging out the base of the culvert

Project Type	Responses to Question D-8
In-stream passage	Making sure keeping the landowner informed of all the issues and keeping them informed of changes as they occur; to develop rapport with all stakeholders, esp. landowners
In-stream passage	Need a good group of people to work together, be patient with process, work together at lowest level
In-stream passage	None
In-stream passage	None given
In-stream passage	Nothing new comes to mind.
In-stream passage	Originally anticipated to use sheet pilings to shoring, contractors used a temporary bridge and avoided shoring need; constructed bridge in two phases
In-stream passage	Partnering made the process easy and successful; was the key to this going so great
In-stream passage	Partnering with the HCSEG made the process easy and successful; was the key to this going so great
In-stream passage	Process is intensive-permitting, design, landowner, ranking and funding; 50% of time spent managing project; come up with cost share
In-stream passage	Very careful with placing in stream structures because of impacts to WQ short-term
In-stream passage	When submitting permits include all affected jurisdictions as well as nearby unaffected jurisdiction to accommodate all potential parties-- over inform right away to reduce delays and intervention
In-stream passage	Would have been nice if could have had a guarantee that the upstream restoration was going to be implemented
Riparian habitat	1. Reconcile whether the design is natural or in rows and make sure the irrigation design matches the planting design. 2. Anticipate vandalism and rodent damage. 3. Make sure maintenance plan matches the design and all participants are on-board. 4. Reserve funds to repair the system, especially if above ground.
Riparian habitat	Avoid getting directly involved in the construction work; let the construction contractor do the cost estimating and construction; when one is not doing the cost estimating every day it is difficult to identify all the hidden costs; best to let the pros do the estimating
Riparian habitat	Do not planting in the spring. A very dry spring and hot summer caused high mortality. Do plantings in the fall. Don't do under story species. Success is better by establishing the shade and canopy. If doing this again, start by eliminating the blackberry first over three years then plant. When fighting the blackberry after planting, the planted species get killed in the process.
Riparian habitat	Good idea to have project more fully designed before beginning
Riparian habitat	Important to have a good planting plan to find your trees, plastic tubing essential to finding them
Riparian habitat	Keep student group numbers low, it allows crew leaders to keep a better eye on the quality of the planting; provide consistent training for crew leaders; recognize students for their efforts with certificates; arrange follow-up field trip so they can see progress of their plantings; send out letter to teachers and landowner detailing the success of the project.
Riparian habitat	Landowner signed a landowner agreement but didn't do the things they agreed to in the full extent; don't put too much weight in these "landowner written agreements," make sure things are getting done through follow-up.

Project Type	Responses to Question D-8
Riparian habitat	Make sure there is proper planning time comparable to the size of the project
Riparian habitat	More cost effective to plant large amounts with machines vs. hand planting
Riparian habitat	None given
Riparian habitat	None mentioned
Riparian habitat	Nothing in particular, standard type of project; people have comment on tree protectors which they did not dig them, where able to stake and had no predation by mice
Riparian habitat	O/M very critical, need to setup a watering system during first year and initial dry periods
Riparian habitat	Planting techniques for cobble and low-rainfall areas
Riparian habitat	Planting techniques for cobble and low-rainfall areas
Riparian habitat	Remote-access was a challenge to reach; plan your phasing carefully
Riparian habitat	Spraying reed canary grass with DOE herbicides saves a lot of time and money. Fertilizing the plantings is crucial. Protection guards (tubing) around plantings are important. Well-maintained weed whackers. Planting on both banks works better than on one bank for shade and bank stability.
Riparian habitat	Stick with restoring watershed processes rather than habitat structures
Riparian habitat	Wish we had done some in stream work related to the riparian habitat; do LWD placement
Upland habitat	Be prepared for a very lengthy review process--SRFB more stringent than other grant projects.
Upland habitat	Do better monitoring plan at the beginning and follow through so you can decide whether it is successful in terms of the bigger objective.
Upland habitat	Even when a project is successful, it doesn't mean everyone will accept it.
Upland habitat	Lots of education needs to go along with this because changing from traditional to innovative practices. Psychological change for the producers from the way it's been done for 50 years to something new. Can't lose burning as a tool because must burn residue to get rid of it before direct seeding.
Upland habitat	Needs to be a lot of management, nothing is a quick fix, so need to keep people up to date and learn as you go.
Upland habitat	The keys to success mentioned previously.
Upland habitat	This is a peak and valley system; need to understand that there are ups and downs.
Upland habitat	This was the project that engendered the fight that resulted in no more projects being funded on private timberlands.
Upland habitat	This was their first SRFB project. We learned how to administer IAC funds. We learned the limitations of working with IAC funds. Learned the importance of partnerships, and how to set up efficient contract administration process.

Project Type	Responses to Question D-8
Upland habitat	Weed control is a big issue in low-rainfall areas. It's hard to do continuous cropping in these areas.

D-9 Do you have any final comments that you would like to share with the SRF Board?

Project Type	Responses to Question D-9
Acquisition	Acquisition is important! Even in seemingly poor urban habitat areas.
Acquisition	Appreciate your support
Acquisition	Continue to use acquisition for salmon habitat protection and restoration.
Acquisition	County got first grant (fee-simple portion), 2nd SRF Board-approved grant (for 1st portion of timber rights). Preserving upland areas (esp. forested areas) are every bit as important as in-stream habitat. Regulations cannot protect much beyond the water and buffers, all the more need for SRF Board-type intervention.
Acquisition	County got first grant (fee-simple portion), 2nd SRF Board-approved grant (for 1st portion of timber rights). Preserving upland areas (esp. forested areas) are every bit as important as in-stream habitat. Regulations cannot protect much beyond the water and buffers, all the more need for SRF Board-type intervention.
Acquisition	Credit to SRF Board officer for flexibility and support.
Acquisition	Good luck with getting future funding. Supportive of SRF Board program, and find it very important in overall project strategies and implementation around endangered species.
Acquisition	Greatly appreciate the funding support for this project, look forward to continuing to partner on many more.
Acquisition	Include provisions in all acquisition grants for O&M funds to be provided. Really need the following for this site (funding not available from public sector to do so): 1 - conduct meets and bounds survey of property 2 - conduct thorough inventory and survey of natural features on site, including forest habitat by density, area, and vegetative type, wetlands by classification and size, stream survey on physical and biological features, water quality analysis (baseline)/quantity/flow information 3 - management plan, based on surveys (step 1 and 2), on public access passive recreation trails consistent with CA restrictions and covenants
Acquisition	It would be helpful to have flexibility within granting agencies that meet the same original objectives and are within the same geographic area. Hope that there will be more funding available in the future.
Acquisition	Made an incredible difference in the KC programs targeted at salmon recovery
Acquisition	None
Acquisition	None
Acquisition	None
Acquisition	Thanks
Acquisition	Thanks for being flexible with the funding in order to identify and purchase different properties than those originally proposed.
Acquisition	Thanks for your support in the Skagit, hope it continues.

Project Type	Responses to Question D-9
Acquisition	Would be nice to be able to backdate some of project's reimbursements - e.g., appraisal prior to actually getting the $$ after signing agreement with SRF Board.
Assessments and studies	Continued support for planning for salmon recovery is critical through this next one to two year period. Must finish the planning effort to ensure that capital investments are addressing the highest priority, most cost-effective needs.
Assessments and studies	Glad to see the progress that's been made in the last years; hope they continue funding the Lead Entity process.
Assessments and studies	Have received a number of SRFB grants, and have had a good experience of working with IAC in terms of overall administration of grants and contracts. Have been reasonably flexible and fairly responsible. Not all funding entities out there are nearly as easy to work with.
Assessments and studies	Having this plan made it possible for us to receive enough funding so that we can either buy conservation easements or help defray expenses for donated conservation easements, and we've also been able to be a partial match for 2 other SRFB projects to acquire conservation easements. Another entity holds the easements.
Assessments and studies	In order for the SRFB and Washington to be assured that we are investing our resources for salmon recovery in the most cost-effective and efficient way, we must have sufficient resources dedicated at the local level to developing scientifically based and publicly supported action plans.
Assessments and studies	Keep finding more money. Let the LE's help define the process and ranking. LE's are pretty critical to this process. Continue to solicit the tribes to be involved. Lobby for more bucks!
Assessments and studies	No
Assessments and studies	No
Assessments and studies	No
Assessments and studies	No.
Assessments and studies	No. We talk with them directly from time to time.
Assessments and studies	None
Assessments and studies	None.
Assessments and studies	None.
Assessments and studies	Not really. Just waiting to see what happens in court.
Assessments and studies	Project has been successful, and will continue to be a benefit for a couple of decades in the future.
Assessments and studies	Talk with them directly from time to time.
Assessments and studies	Thank you!
Assessments and studies	Thanks!
Assessments and studies	This is the type of project that doesn't fit any of the current categories, and yet there's a need for funding, whether it be through SRFB or through state agency budgets. There's an unfulfilled need.

Project Type	Responses to Question D-9
Assessments and studies	This particular type of grant is pretty unusual given the current SRFB mandate, but speaks to the reality that it takes resources and infrastructure to complete salmon recovery planning and projects. There's an unfulfilled need out there.
Assessments and studies	This was a unique grant because it funded capacity building to conduct restoration planning and design, and that type of funding is very difficult to obtain now. But we can't do the specific types of capital projects that they're looking for without that capacity.
Assessments and studies	Was a good working relationship with the SRFB.
Assessments and studies	Was a short-term grant that was pretty focused. Although it was short-term (which was very frustrating at the time because the money ran out just when we got rolling) it still got people farther along the path of working together. In the salmon recovery process, that's critical.
Assessments and studies	We really appreciate the opportunity to apply for funding because there is such a great need for this information. To be able to successfully restore and protect habitat, we need that information. Too often, restoration is being done without all the information and manipulation is happening that is more minor. Long-term monitoring really needs to be mandatory, as well as an adaptive management piece. If what we're doing isn't working, we need to change it. It's not just about spending money and going in and manipulating the resource. And that's not happening anywhere. It comes straight from the legislature. It's all about money and politics, it's nothing to do with fish.
Estuarine/marine near shore	Getting everybody to buy into a project makes things much easier; select from a small list of contractors helps to guarantee the quality of the work (familiar with the contractors work)
Estuarine/marine near shore	Thanks for the help; need more funding for estuarine areas
Estuarine/marine nearshore	This is a project the City is very proud of.
In-stream diversions	About 10 users on this ditch. 4 wells were drilled with this grant. Another, 3 wells drilled. SRFB, and other funding sources, will not help drill remaining wells now because landowners have already agreed to lower flow, upon the agreement they would each get a well drilled. There is no longer a direct benefit to salmon. This was very disappointing to the landowners.
In-stream diversions	Appreciated the support of the SRFB to complete this project. This was a diversion that had been unscreened for years and years.
In-stream diversions	Ditch co. is still trying to implement innovative water conservation measures and appreciates any future support towards those ends.
In-stream diversions	Don't know
In-stream diversions	Even though we moved back to the old site, it’s operating just fine. We’re happy with how it turned out.
In-stream diversions	Good, successful project.
In-stream diversions	No
In-stream diversions	No, although I hope that Round 5 comes together since there is talk of budget trouble with that. SRFB grants are very valuable. I wouldn't have been able to do important projects without the grants that I've received.
In-stream diversions	No, the project went well and we appreciated the funding.
In-stream diversions	The project turned out well and everyone is happy with it.

Project Type	Responses to Question D-9
In-stream diversions	The river is on the 303(d) list of impaired water bodies; due to poor in-stream flow conditions. Because there is a large purveyor of the river water, they have a significant impact on salmonid habitat in the river. Water conservation within the irrigation system can and does provide a valuable opportunity for improving in-stream habitat for salmon, both ESA- and non-ESA-listed species. Obtaining funds for these projects continues to be essential in order to continue improving the degraded habitat of the river.
In-stream diversions	This was a very successful project: very small amount, which spread the process up and didn't cost the SRFB very much.
In-stream diversions	This was another good project that came out well.
In-stream habitat	Any questions please refer back to the report If any questions needed for budgeting please call.
In-stream habitat	Applicant would like to tour the project with SRF Board to review the project to use this project as a learning tool for how the project went wrong.
In-stream habitat	Appreciate that they exist and are spending $ on projects; mixed feelings on process (some aspects great, trying to do it right), a lot of inconsistently from cycle to cycle, changes within the cycle, settle on process for any given cycle, decide on who has authority to rank projects and give credence to process, figure out real role of WRIA and technical committees; politics - don't' let influence happen in the middle of cycle-example acquisitions; maybe evaluate WRIA independently-approve strategy and let them rank; don't move away from acquisitions-a bit more bullet proof than projects, keep funding a mix
In-stream habitat	Been in the timber business for a long time. He remembers removing logs from streams and burning it thinking that was good science. Now the cycle has swung the other way. We need to be careful about what is a "fad" and what is actually going to help the fish.
In-stream habitat	Great project, allowed numerous participants to get involved with the Tribe in the process of implementing this project
In-stream habitat	Great staff to work with
In-stream habitat	Having flexible $ sources, folks with understanding the technical issues, local support by landowners important to project success
In-stream habitat	Lift moratorium on LWD projects on large River, need SRFB support; underfunding restoration by an order of magnitude, need more $$ if we are successfully going to restore salmon, need time and $$
In-stream habitat	No
In-stream habitat	No answer given
In-stream habitat	Our relationships with SRFB staff were highly constructive and an active partner rather than passive partner. Project staff wanted to make sure that Marc Duboiski was given praise-he was great to work with.
In-stream habitat	Overall very successful project, accomplished objectives; don't be surprised when mother nature tweaks the "final" design
In-stream habitat	Project went smoothly; SRFB should provide funds to cover overhead costs for public agencies
In-stream habitat	Regarding moratorium on the engineered logjams; applicant thinks there is no reason to continue the moratorium.
In-stream habitat	SRFB has been good to work with
In-stream habitat	The 99 project process was very different and different monitoring requirements
In-stream habitat	They appreciate the money. Anything that can be done for the restoration of wild salmon they support.

Project Type	Responses to Question D-9
In-stream habitat	To be on top of permitting requirements so they don't raise project costs and prevent implementation; thanks for the support given around this project
In-stream habitat	Very thankful that project was funded; glad to take IAC folks up there to visit the project again
In-stream habitat	We support SRFB 100% and Norm Dicks 100%; great program, easy to work with; staff at IAC is extremely good
In-stream passage	1. Need more money for projects. We have lots of projects. 2. Very much appreciate the interest and help provided by the SRFB!
In-stream passage	Appreciate the SRFB cooperation and help to get the project off the ground and completed. Hope to work with them in the future. The trend to try to monitor and evaluate projects is good but not applicable to all projects and we can't get bogged down with monitoring projects. What would be the least amount of monitoring and evaluation needed to monitor success ($).
In-stream passage	For projects with obvious immediate bang for buck why cost share requirement? Benefits to fish vs. benefits to fish and landowner
In-stream passage	Glad they permitted it to occur, good project and will be beneficial long-term, everybody pleased with final outcome
In-stream passage	Good project, necessary, we would like to see more of these type of projects
In-stream passage	In general doing a great job, appreciate the opportunity to do salmon projects, hope it continues, local govt. should prepare or participated in formal planning for salmon recovery-action plan
In-stream passage	None
In-stream passage	None
In-stream passage	None
In-stream passage	Please make your applications shorter. Less process would be helpful. More money for passage projects is needed. Passage is an obvious benefit versus others that may be marginal.
In-stream passage	Project was successful and increased fish spawning in the river.
In-stream passage	Removal of fish passage barriers are more valuable than land acquisition, opening up watersheds
In-stream passage	Thank you for funding these type of projects, project a big success for the area, benefit to habitat and species, money well spent; good example for shorter systems close to salt water, really attract fish, important for usage given response by species
In-stream passage	Thank you for the funding.
In-stream passage	Thanks for supporting such a great project!
In-stream passage	Thanks!
In-stream passage	Thanks, projects that have lots of local ownership and matching funds can be successful in 2 things- (1) establishing fish and (2) getting locals involved to take ownership; only way to track project success is to monitor the projects afterwards
In-stream passage	Thanks; great project

Project Type	Responses to Question D-9
In-stream passage	The Corps of Engineers permitting was very long and difficult
In-stream passage	The permitting process with the Corps has been very limiting to moving forward with projects; stream-lined permitting process has been challenging
In-stream passage	The project management from the SRFB was excellent, very positive, allowed implementation to successfully to occur; appreciate pro-project attitude
In-stream passage	The project team really appreciates the SRFBs involvement; funding was key to the projects success.
In-stream passage	Urban projects have value and encourage the SRFB to continue to fund them
In-stream passage	Without SRFB funding could not have done this highly important project-opened up 8.8 miles of high quality habitat
In-stream passage	Without SRFB funding wouldn't be able to realize the maximum benefit to the watershed, this project especially. This passage was critical to affording us habitat.
Riparian habitat	Always grateful for their flexibility
Riparian habitat	Can't always argue over buffer widths. That means for permitting purposes that if a willing land owner is willing to plant buffers it shouldn't matter how much they are willing to provide. The funding is appreciated and hopefully the funding will continue. Riparian planting is good for the streams.
Riparian habitat	Community involvement and moderate biological benefit make for a great project
Riparian habitat	Enjoy program and implementing projects to restore critical habitat, appreciated hard work and dedication
Riparian habitat	Enjoy program and implementing projects to restore critical habitat, appreciated hard work and dedication
Riparian habitat	Keep continuing these type of implementing projects help with the Touchet
Riparian habitat	Keep funding good projects that come out of technical review process; important that projects remain technically sound
Riparian habitat	Keep up the great program
Riparian habitat	Let us spend SRFB dollars on internal overhead for projects
Riparian habitat	None given
Riparian habitat	Quit throwing so much funding at land acquisition; won't make a difference because can't buy enough of it. Would like SRFB to consider that landowners can offer up land for restoration as part of their cost-share; the fact that they have to go out and get more money to match the restoration costs of the project deters many landowners from taking part.
Riparian habitat	Small project and grant, was a little bit to help the creek, more $ might have helped, limited with small budget
Riparian habitat	Streamline the application process - it is a deterrent to even apply because of the amount of staff time that is needed to go through the application process. All SRFB staff has been knowledgeable, helpful, and accessible.
Riparian habitat	Thanks for the cash

Project Type	Responses to Question D-9
Riparian habitat	The city is committed to the site even though many plants were lost initially. The overstory plants are growing well.
Riparian habitat	Why put funding off for year? Local leveraging of limited funds, give us the $$ and we will do good things-too much process
Riparian habitat	Wish the Conservation District had a better follow-up related to riparian plantings, as well as other projects they are involved with.
Upland habitat	No
Upland habitat	Nope
Upland habitat	Partnerships are everything. Encourage efficient partnerships. Working with regional fisheries enhancement groups is a great way to get work done because they have less bureaucracy.
Upland habitat	Partnerships are key!
Upland habitat	SRFB were cooperative and enjoyable and informative; they were on top of the process. Contact thinks that perhaps there were too many technical reviewers.
Upland habitat	The contact appreciates the funding that is available to this program. It's the first one of this type and was somewhat different than others. Fish habitat starts at the ridge top, and it's nice that SRFB recognizes this.
Upland habitat	The final result of this project was out of the control of the landowner. It wasn't anything to do with the program; just external factors that made it fall apart at the end.
Upland habitat	There is a fallacy in not allowing funds to go to timber companies. Agriculture is getting away with murder, and they are not required to take care of land/habitat like timber is. If you are not going to allow funding for private timber then it shouldn't be allowed for private ag, or it should be allowed for both.
Upland habitat	These projects are viable and valuable. Don't want to lose burning as a management tool.