Implementation Reporting of Habitat Projects for the Hood Canal Summer Chum Salmon Recovery Plan

June 2011

Introduction

The purpose of this report is to summarize the number, categories, and metrics for habitat projects that have been implemented as a part of Summer Chum Salmon Recovery Plan (HCCC, 2005) implementation between 1983 and 2011. We also provide a set of recommended next steps for future program development. The report will only include those projects that have taken place in the Hood Canal Summer Chum ESU and are captured in the Habitat Work Schedule (HWS). The Hood Canal Summer Chum ESU consists of eleven Hood Canal/Strait of Juan De Fuca watersheds that are home to the eight extant and three reintroduced summer chum populations (Table 1).

Table 1: Population Status of Summer Chum Watersheds Incorporated Into This Report

Conservation Unit	Summer Chum Watershed	Population Status
Eastern Strait of Juan de Fuca	1. Jimmycomelately	Extant
	2. Salmon/Snow	Extant
	3. Chimacum	Re-introduced
Quilcene	4. Big/Little Quilcene	Extant
Hamma Hamma-Duckabush-Dosewallips	5. Hamma Hamma	Extant
	6. Duckabush	Extant
	7. Dosewallips	Extant
Lilliwaup-Skokomish	8. Lilliwaup	Extant
Union	9. Union	Extant
	10. Tahuya	Re-introduced
West Kitsap	11. Big Beef	Re-introduced

There are two types of reports contained in this document. Appendix A contains project summaries. A project summary is the total number of habitat projects by category that have been implemented. Appendix B contains a project summary for each of the above Summer Chum watersheds in addition to a metric summary. In HWS metrics are referred to as reporting codes. In this report we will use the term reporting code only when labeling tables generated in HWS.

This implementation report is a required item for the Hood Canal Coordinating Council (HCCC) Salmon Recovery Plan Implementation Scope of Work under Activity 3. This activity also requires the HCCC to update HWS and our website to reflect progress and status of recovery plan implementation.

Utilization of HWS

HCCC first started using HWS in 2008 when it was created by WDFW, lead entities, and Paladin Data Systems. Currently all Lead Entities (LE) are required to use HWS to input and track Salmon Recovery Funding Board (SRFB) projects. HCCC decided that the HWS would be used as a repository for all salmon habitat project information, not just the SRFB funded projects. Prior to this time, there was no master database or website that a person could access that contained information on all of the habitat

projects completed in the Hood Canal region. We wanted to capture all the work that was being done by project sponsors in a centrally located, public, queryable database and the HWS met these criteria. Staff worked closely with project sponsors and Paladin Data Systems to collect and import large amounts of completed project data directly into HWS. We estimate that at least 90% of projects completed have now been entered into HWS.

The habitat project data was organized into a consistent hierarchy across the region. The first level of organization is by the 5th field watershed or in some cases conservation units identified in the Hood Canal Summer Chum Salmon Recovery Plan. For example, there is a Level 1 folder called Big.Little Quilcene, where the Big and Little Quilcene watersheds are combined. The second level of organization is by the type of habitat restoration activities e.g., Estuary restoration, Fish Passage, or Conservation. Within each of the restoration types are the individual projects called Level 3 projects. For more detail on the hierarchy, please see the Habitat Protection and Restoration Hierarchy Guide on our website.

The hierarchy was arranged in this fashion so that the metrics for all the level three projects would roll up to the next highest level. This means that as one moves up to the level two folders, all the metrics from the level three projects are summarized. Likewise, the level 1 folder summarizes all the metrics from the level 2 folders. Staff has spent considerable time training project sponsors in how to use the HWS, and explaining the benefits of the system's reporting tools. Over the last 3 years HCCC staff and project partners have worked together to input project data. There are now 308 completed and 112 active projects captured in HWS (Table 2). Staff has also created conceptual and proposed projects, and focused on the maintenance of active project pages. More recently HCCC has started to explore new ways of using the conceptual and proposed projects as a tool for out-year planning (three year work plan), grant tracking, and most important implementation reporting. In particular we are working to define habitat goals by watershed and then link projects to goals in order to show how much progress has been made towards the goal.

Table 2: Project Summary 1983-June 2011

Project Status	# Projects
Completed	308
Active	112
Proposed	107
Conceptual	9
Total Projects:	**536**

Implementation Reporting of Habitat Projects

Once these projects were entered into the HWS, we then used the reporting features to generate the reports found in the appendices.

Project Summaries

The project summary reports the total number of all completed and active habitat projects by category (Restoration, Acquisition/Restoration, Non Capital, Acquisition).

Looking at the project summaries across all the watersheds (Appendix A), we can see that there is variation in the number of habitat projects have taken place in the watersheds, with a particular emphasis in the Chimacum watershed, followed by the Big & Little Quilcene and then the Snow/Salmon watersheds. This is due to a variety of reasons:

- Habitat restoration projects have taken place in some watersheds at higher rates and intensities.
- Some projects are captured better in HWS than others
    - Some watersheds such as Chimacum have project information dating as far back as the early 1980's, others only have more recent info.
- Some smaller scale projects are split out (i.e Chimacum plantings) while some larger scale/intensity projects are lumped (i.e. Dosewallips)

Metric Summaries

Appendix B shows project summaries within each of the eleven watersheds in addition to their respective metric summary. A metric summary is a report summarizing the HWS reporting codes (ex: riparian trees planted) and the reporting code units (the numbers associated with the reporting codes) linked with each project. In other words this report tells us precisely 'how many' of 'what type' occurred, e.g. how many feet of dikes, levees or berms have been removed?

Habitat Work Schedule Metric Analysis

After close examination staff found that the metric summary reports were not entirely accurate and seemed to be under reporting. Further analysis was needed to determine how many completed projects were missing metrics.

In order to assess how many of the completed projects in HWS have metrics, HCCC staff completed a Habitat Work Schedule Metric Analysis (Appendix C). The analysis examined every HWS project within the 11 watersheds and recorded whether metrics had been entered into the project page or not. Only HWS reporting codes that had units of measure associated with them were included in the analysis. Additionally, this was only a presence/absence analysis, it did not report on the accuracy or appropriateness of each unit. For the eleven watersheds examined, 75% of the completed projects have at least one metric. This means that our current reports are under reporting by at least 25%.

Conclusions

Based on staff analysis, conversations with project sponsors and careful review of reports and analyses we have made the following conclusions:

- Overall we are under reporting on habitat restoration
    - HWS does not contain all of the numerous habitat projects implemented
    - Only 75% of projects in HWS have metrics, and in many cases the accuracy or appropriateness of these units is questionable

- Inconsistency in reporting codes units used
    - Is estuary restoration tracked by the number of feet of dike removed, or acres of salt march restored?

    - There is no longer a 1 to 1 relationship between PRISM metrics and HWS reporting code units

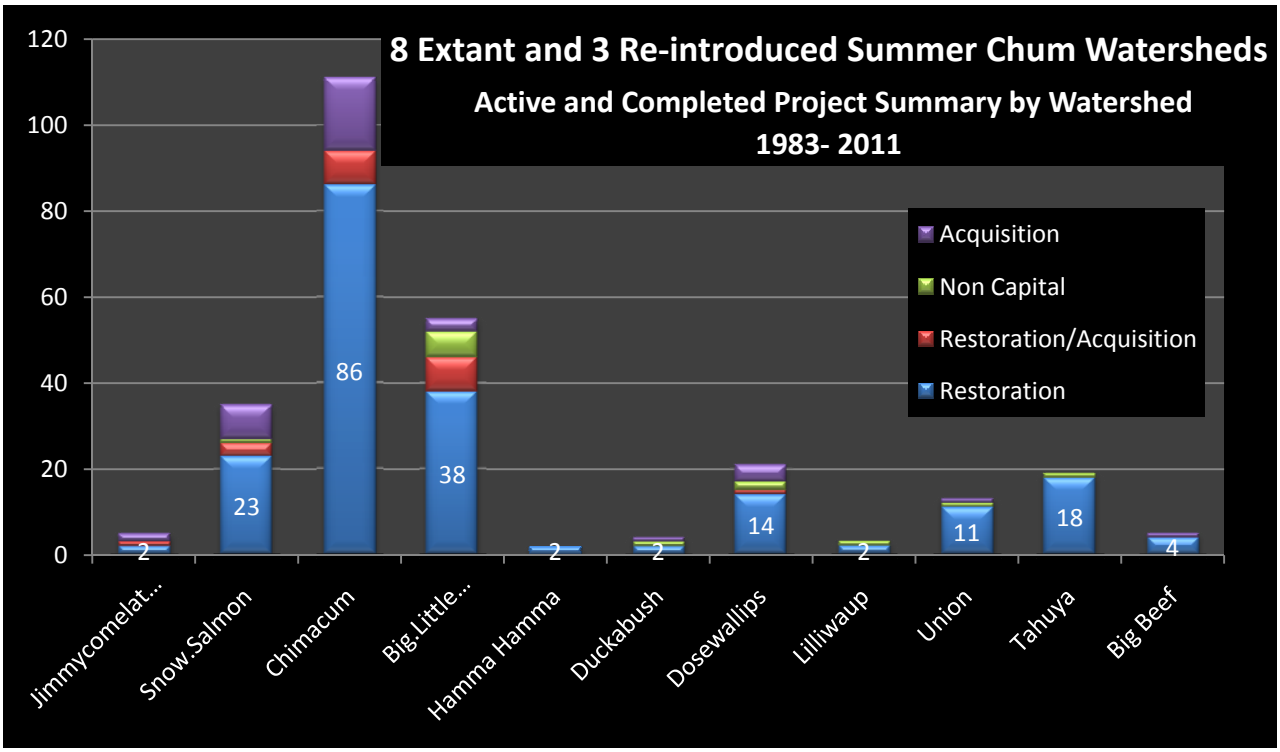
- Requires a tremendous amount of staff time to find and input accurate information on older projects
- Some project partners have not reliably updated their accomplishments on new projects
- There is a need to have defined habitat goals and be able to show progress toward those goals for summaries to be more useful
- There is a lack of guidance and/or a comprehensive plan to achieve accurate implementation/progress reporting.

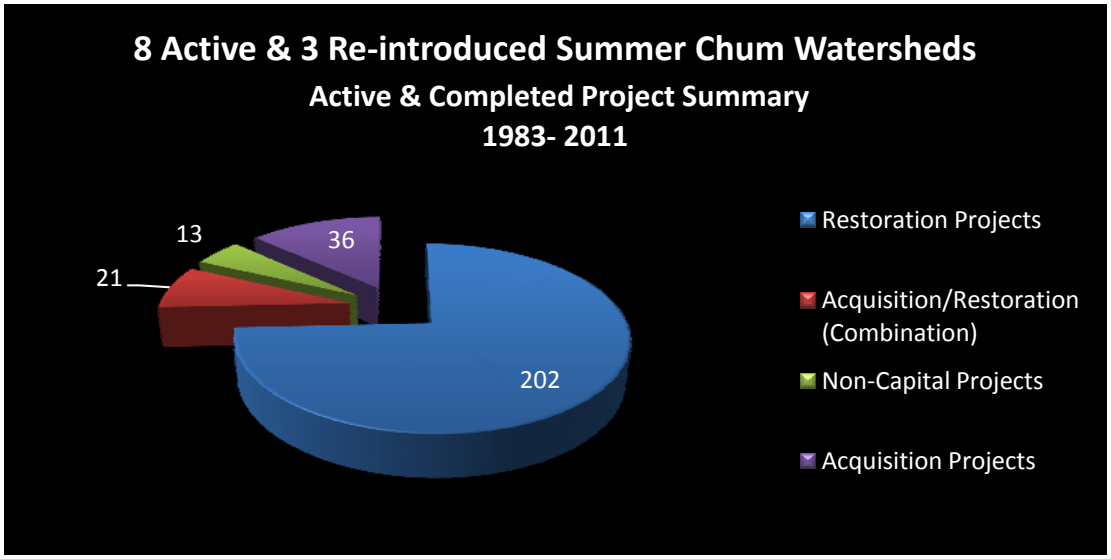
Next Steps

- Identify overall habitat goals for each watershed using the EDT modeling efforts
- Connect salmon habitat goals derived above with ecosystem recovery goals
- Develop a comprehensive plan to achieve accurate and complete reporting from HWS, within the existing database capacities
- Improve guidance materials and provide more training for project sponsors/partners
    - Clearly outline goals and expectations for data entry
    - Identify reporting codes that are most important for tracking salmon recovery
- Increase participation by sponsors and partners by emphasizing the benefits of using HWS
    - Great for outreach and education
    - Reporting on past progress to prove we are spending funds on priorities
    - Improved project tracking
    - Increased efficiency for project milestone reporting
    - Storing project pictures and documents

- Use HWS to track harvest, hatcheries, programmatic actions
- Use HWS to report out on what projects are addressing what habitat factors for decline

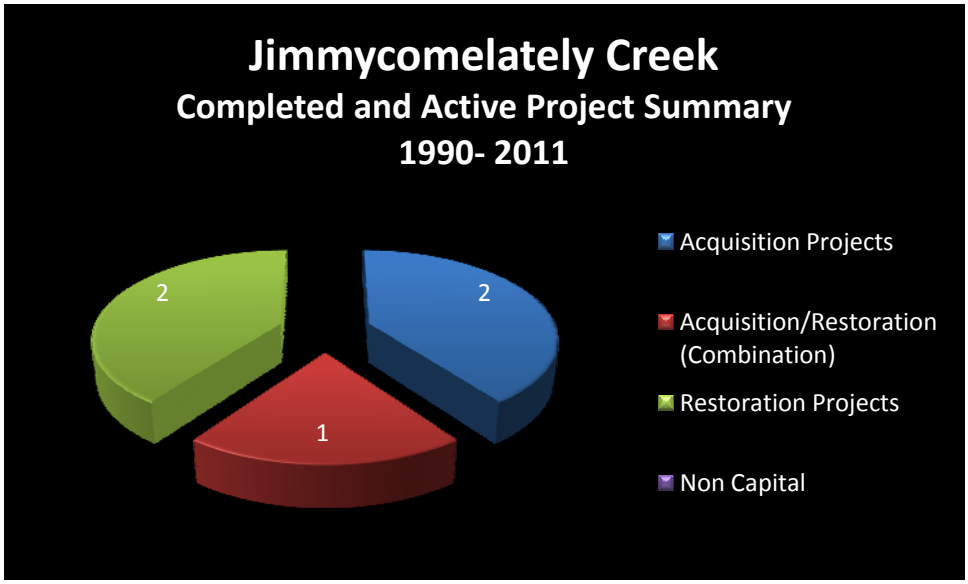
Appendix A: Project Summaries





Appendix B: Project Summaries & Metric Summaries by Watershed

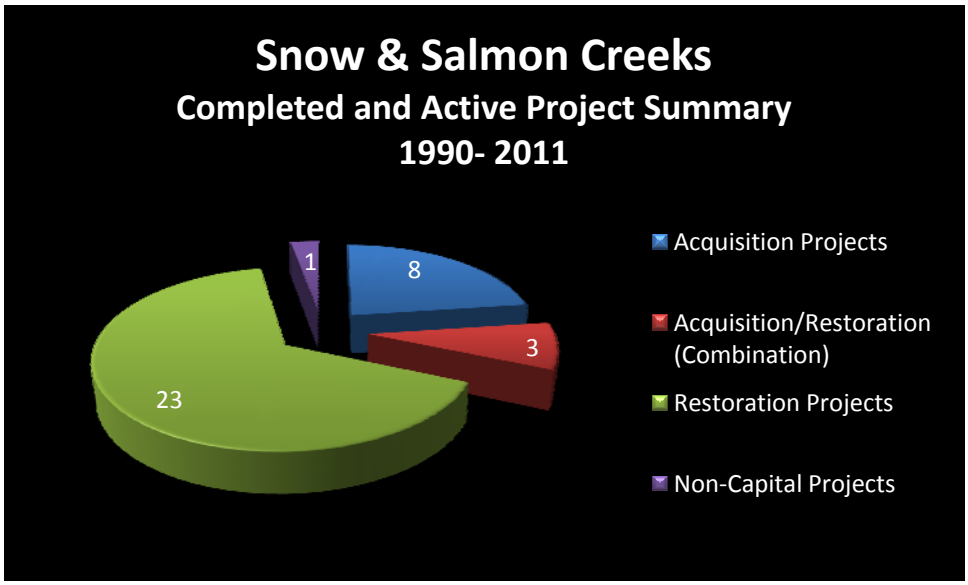
Jimmycomelately Creek
1990-2011



Metric Summary

Reporting Code	Units	Units Of Measure
Bridge	2	Each
Channel Modification/Creation	3490	Feet
Road Removal	1300	Feet
Channel structure - Large woody debris	1400	Feet
Nearshore or estuarine areas protected	60	Acres
Riparian conservation	3.3	Acres

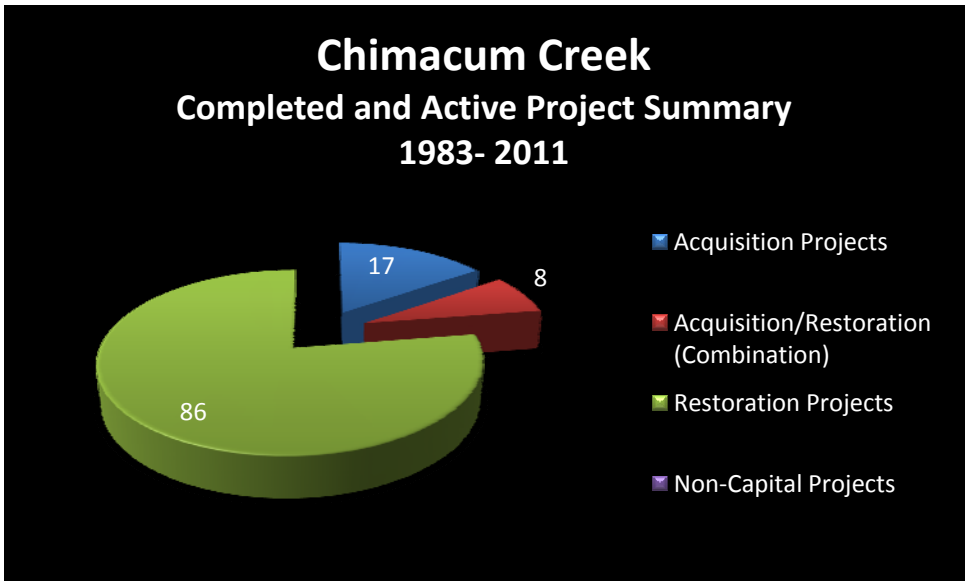
Snow & Salmon Creeks
1990-2011



Metric Summary

Reporting Code	Units	UOM
Berm or Dike Removal or Modification	5.6	Acres
Contaminant Removal and Remediation	5.5	Acres
Debris Removal	5.5	Acres
Plant removal/ control	15.1	Acres
Planting	13	Acres
Nearshore or estuarine areas protected	28.7	Acres
Upland protected	120	Acres
Wetland areas protected	312.5	Acres
Riparian Planting Maintenance	1.8	Acres
Culvert modification - Culvert Removal	1	Each
Bridge installed	1	Each
Fish passage blockages removed or altered	2	Each
Erosion control structures	1	Each
Road abandonment and obliteration	4.11	Miles
Streambank or riparian protected	3.01	Miles
Streambank protected within summer chum distribution (Salmon Creek)	2.23	Miles
Streambank protected within summer chum distribution (Snow Creek)	0.78	Miles
Riparian Trees/Shrubs Planted	1490	Each

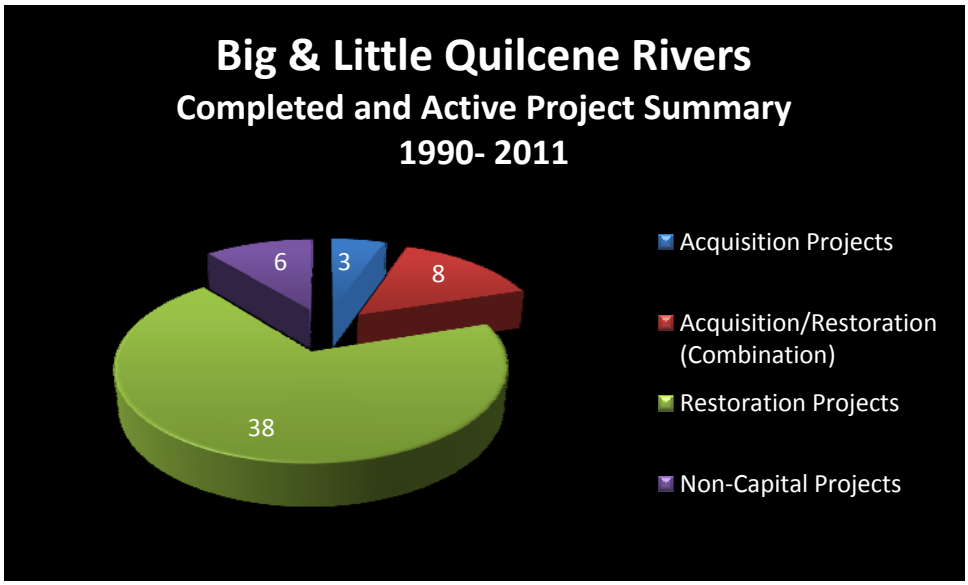
Chimacum Creek
1983-2011



Metric Summary

Reporting Code	Units	UOM
Nearshore or estuarine areas protected	71.7	Acres
Upland protected	16	Acres
Beach Nourishment	13	Acres
Invasives/Weed Control - Instream	2.1	Acres
Livestock exclusion	40.1	Acres
Plant removal/ control	5.8	Acres
Planting	89.6	Acres
Floodplain Protected	417.44	Acres
Riparian Planting Maintenance	11.1	Acres
Topography Restoration or Creation	1	Each
Bridge installed	1	Each
Fish ladder Installed / improved	1	Each
Fish passage blockages removed or altered	5	Each
Fishway chutes or pools Installed	5	Each
Water gap development	4	Each
Water development	6	Each
Riparian Trees/Shrubs Planted	4681	Each
Channel reconfiguration and connectivity	20270.2	Feet
Channel structure - Large woody debris	23382.2	Feet
Fencing	68056.6	Feet
Streambank or riparian protected	5.18	Miles
Number of miles upstream made accessible	0.51	Miles

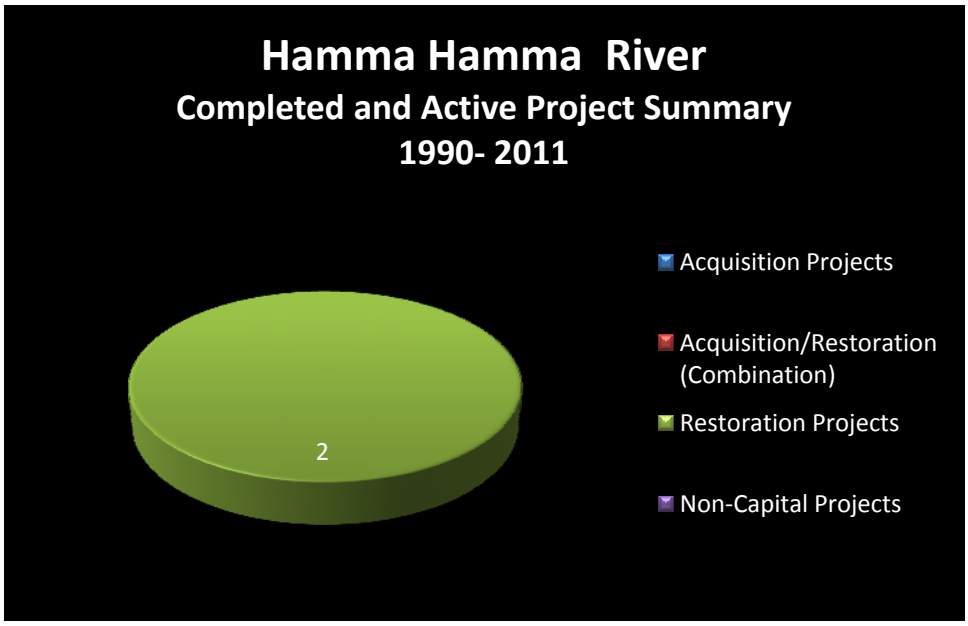
Big and Little Quilcene Rivers 1990-2011



Metric Summary

Reporting Code	Units	UOM
Berm or Dike Removal or Modification	114.3	Acres
Debris Removal	1	Acres
Physical Exclusion	40.5	Acres
Plant removal/ control	136.85	Acres
Planting	34.8	Acres
Nearshore or estuarine areas protected	163	Acres
Upland protected	9	Acres
Wetland areas protected	9	Acres
Riparian Planting Maintenance	35.1	Acres
Culvert modification - Culvert Improvements	1	Each
Bridge installed	1	Each
Fish passage blockages removed or altered	1	Each
Engineered Log Jams Installed	2	Each
Number of Landowners assisted (Knotweed Control)	43	Each
Parcels Treated	69	Each
Riparian Trees/Shrubs Planted	6610	Each
Channel reconfiguration and connectivity	2112	Feet
Channel structure - Large woody debris	5000	Feet
Channel structure - Log weirs	500	Feet
Dike, levee, or berm modification/removal	10050	Feet
Channel Modification/Creation	900	Linear Feet
Road abandonment and obliteration	43.1	Miles
Knotweed Assessment	8	Miles

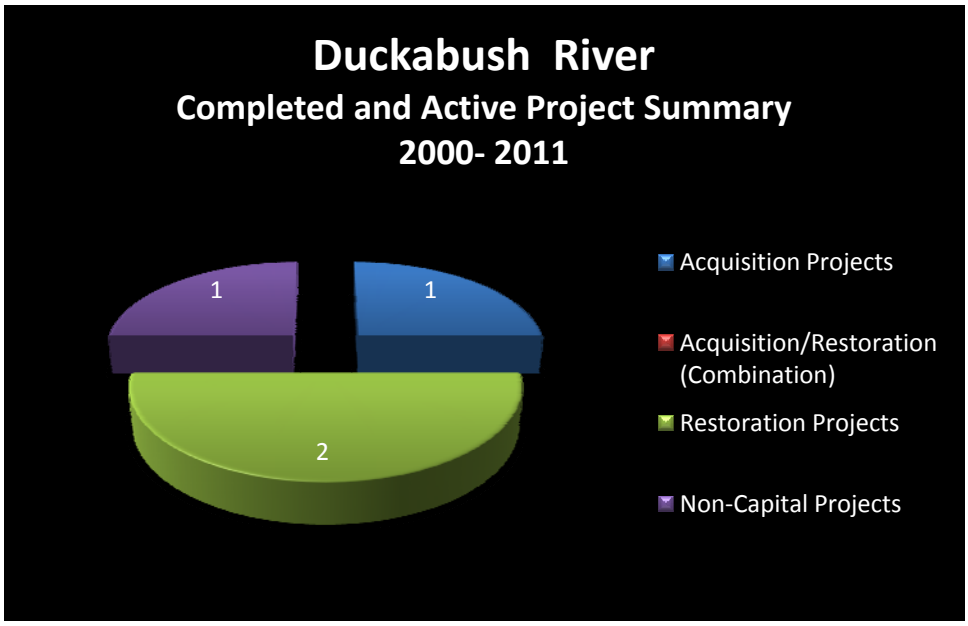
Hamma Hamma River
1990-2011



Metric Summary

Reporting Code	Units	UOM
Culvert modification - Culvert Removal	1	Each
Number of LWD structures placed in channel	6	Each
Channel structure - Wood structure / log jam	800	Feet
Channel Modification/Creation	400	Linear Feet
Road abandonment and obliteration	3	Miles

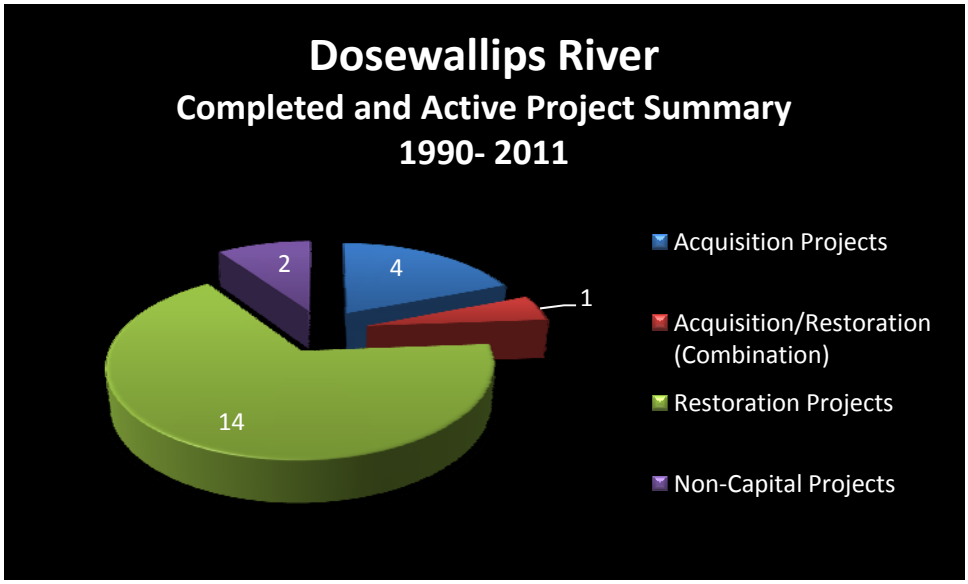
Duckabush River
2000-2011



Metric Summary

Reporting Code	Units	UOM
NONE!		

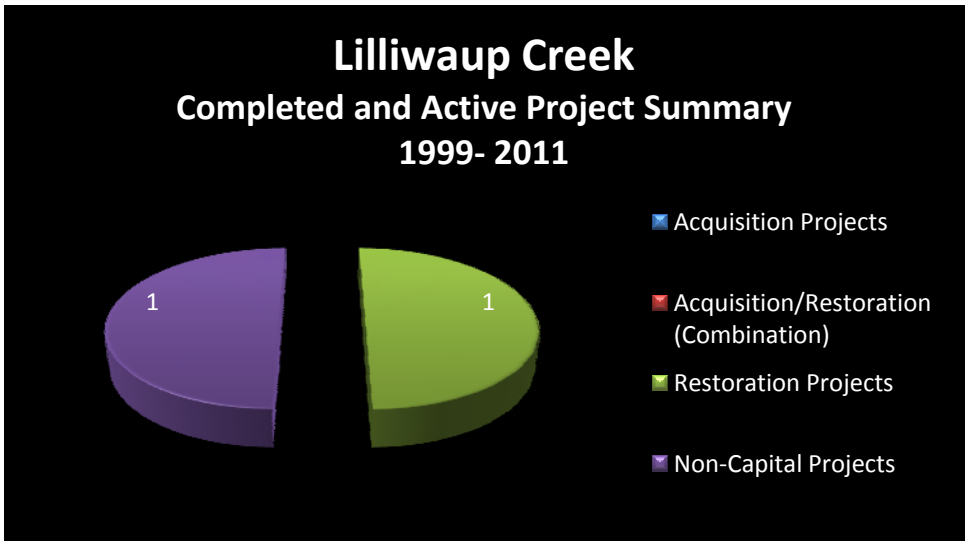
Dosewallips River
1990-2000



Metric Summary

Reporting Code	Units	UOM
Berm or Dike Removal or Modification	20	Acres
Plant removal/ control	21.25	Acres
Wetland areas protected	1	Acres
Floodplain Protected	74	Acres
Fish passage blockages removed or altered	1	Each
Additional Landowner Consent Forms	18	Each
Engineered Log Jams Installed	5	Each
Number of Landowner Consent Forms	7	Each
Number of Landowners assisted (Knotweed Control)	48	Each
Parcels Treated	31	Each
Dike, levee, or berm modification/removal	2000	Feet
Road abandonment and obliteration	7.9	Miles
Streambank or riparian protected	0.75	Miles
Knotweed Assessment	13	Miles

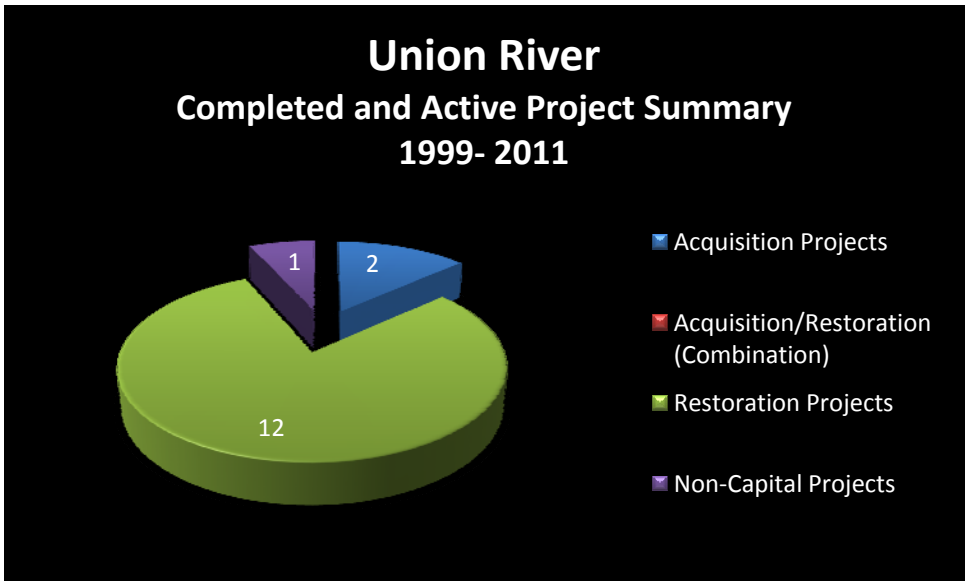
Lilliwaup Creek
1999-2011



Metric Summary

Reporting Code	Units	UOM
Road abandonment and obliteration	1.7	Miles

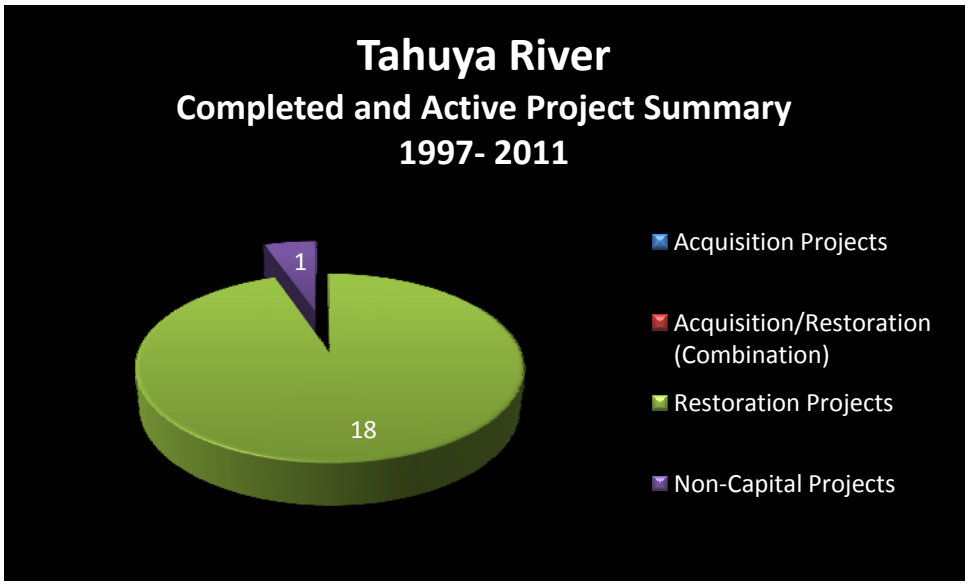
Union River
1999-2011



Metric Summary

Reporting Code	Units	UOM
Invasive Species Control	182.2	Acres
Plant removal/ control	79.2	Acres
Upland protected	2290	Acres
Knotweed Infested Acres	55.8	Acres
Fish passage blockages removed or altered	9	Each
Herbicide Used for Treatment (gallons)	48.8	Each
Parcels Treated	137	Each
Riparian Trees/Shrubs Planted	52	Each
Channel structure - Large woody debris	1200	Feet
Dike, levee, or berm modification/removal	3000	Feet
Knotweed Assessment	15.4	Miles

Tahuya River
1997-2011



Metric Summary

Reporting Code	Units	UOM
Bridge installed	1	Each
Fish ladder Installed/improved	1	Each
Fish passage blockages removed/altered	19	Each
Channel Structure- Large woody debris	330	Feet

Appendix C: Habitat Work Schedule Project Metric Analysis
8 Extant and 3 Re-introduced Summer Chum Watersheds
June 20, 2011

The following table shows the number of Hood Canal habitat restoration and acquisition projects in the Habitat Work Schedule (HWS) that contain metrics. These metrics will allow us to track the amount of restoration or acquisition work that has taken place in the 8 extant and 3 re-introduced extinct Summer Chum watersheds. Our analysis shows that information gaps exist and effort is needed to update the Habitat Work schedule with accurate and complete metric information. It is our goal to have metrics in 100% of the completed habitat projects in HWS.

Watershed	Project Status	Projects	# with Metrics (Presence/Absence)	% with Metrics	Goal
Jimmycomelately	Completed	4	4	**100%**	100%
	Active	1	0	0%	----------
	Conceptual/Proposed	0	0	0%	0%
	Total:	5	4		

Note: HCCC only has access to public Jimmycomelately project information

	Project Status	Projects	# with Metrics	% with Metrics	Goal
Snow. Salmon	Completed	25	14	**56%**	100%
	Active	9	3	33%	----------
	Conceptual/Proposed	17	3	18%	0%
	Total:	51	20		

	Project Status	Projects	# with Metrics	% with Metrics	Goal
Chimacum	Completed	92	85	**92%**	100%
	Active	19	16	84%	----------
	Conceptual/Proposed	1	0	0%	0%
	Total:	112	101		

	Project Status	Projects	# with Metrics	% with Metrics	Goal
Big.Little Quilcene	Completed	33	24	**73%**	100%
	Active	16	5	31%	----------
	Conceptual/Proposed	20	1	5.00%	0%
	Total:	69	30		

	Project Status	Projects	# with Metrics	% with Metrics	Goal
Dosewallips	Completed	10	10	**100%**	100%
	Active	9	2	22%	----------
	Conceptual/Proposed	8	0	0%	0%
	Total:	27	12		

Hamma Hamma

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	2	2	**100%**	100%
Active	0	0	0%	----------
Conceptual/Proposed	3	0	0%	0%
Total:	5	2		

Duckabush

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	1	0	**0%**	100%
Active	3	0	0%	----------
Conceptual/Proposed	5	0	0%	0%
Total:	9	0		

Lilliwaup

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	1	1	**100%**	100%
Active	1	0	0%	----------
Conceptual/Proposed	4	0	0%	0%
Total:	6	1		

Union

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	7	7	**100%**	100%
Active	5	3	60%	----------
Conceptual/Proposed	2	0	0%	0%
Total:	14	10		

Tahuya

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	17	16	**94%**	100%
Active	1	1	100%	----------
Conceptual/Proposed	3	0	0%	0%
Total:	21	17		

Big Beef

Project Status	Projects	# with Metrics	% with Metrics	Goal
Completed	4	2	**50%**	100%
Active	0	0	0%	----------
Conceptual/Proposed	3	0	0%	0%
Total:	7	2		