

Stillaguamish Salmon Recovery 3 Year Work Plan 2012-2014

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Overview:

The 2012-14 Stillaguamish Salmon Recovery 3-Year Work Plan lists the restoration and protection projects that have been planned (have funding) or proposed (need funding) by stakeholders and watershed partners throughout the Stillaguamish Basin. The Work Plan consists of two spreadsheets listing capital and non-capital projects, a narrative describing recent progress and spreadsheet organization, and a section responding to the most recent RITT comments. Most of the projects listed in this work plan have been deemed critical to the overall recovery of Chinook salmon as outlined in the 2005 Stillaguamish Chinook Salmon Recovery Plan. This 3 Year Work Plan has been endorsed by the Stillaguamish Watershed Council (SWC, formerly the Stillaguamish Implementation and Review Committee, or SIRC).

Recent Progress on Stillaguamish Salmon Recovery Three Year Work Plan

Watershed stakeholders continue to make progress towards completing the 10 year habitat goals. These goals are specific to the six habitat limiting factors, and are described in detail in the Chinook Recovery Plan¹. During the 2011 - 2012 field seasons it is anticipated that several projects on the 3-year work plan will be completed or will be well underway, notwithstanding monitoring and maintenance. Projects completed during the 2011 field season include: the Lower Pilchuck Wetland Restoration, Arlington Old-Town Stormwater Wetland, Blue Slough Channel Reconnection Phase III, Engineered Log Jam (ELJ) Placement on the North Fork, and ELJ and Flood Fence on South Fork. On-going projects include: the installation of ELJs on the North and South Fork, the South Fork and North Fork Big Tree Installation, Knotweed and Spartina invasive species control, and the Leque Island and TNC Port Susan Bay Dike Removal. Several large-scale reconnection and restoration projects have begun preliminary feasibility and design such as Gold Basin, South Slough and South Meander. For a complete listing of progress towards the 10 year habitat goals please review the 2011 Stillaguamish Monitoring and Adaptive Management Report².

Several targets and monitorables in the Plan are in the process of being updated during 2012. Specifically the estuary/nearshore targets are being updated based on the work of Brian Collins (UW, unpublished data 2011). The update work, due to be completed in 2012, will refine and expand the estuarine restoration targets to reflect our best understanding of what the historic Stillaguamish estuary looked like. The update will list the quantities of the specific estuarine habitat types needed to ensure Chinook recovery over the 50 year life of the Plan.

¹

<http://www.stillaguamish.nsn.us/Publish/Stillaguamish%20Watershed%20Salmon%20Recovery%20Plan%20--%20Jun.pdf>

² <http://www.stillaguamishwatershed.org/resources/monitoring-and-adaptive-management>

Similarly, the floodplain and sediment targets in the Plan will be updated in 2012 to reflect the latest understanding of the restoration needs of Chinook salmon in the Stillaguamish.

3 Year Workplan: Spreadsheet Organization

The attached spreadsheets are organized into Capital and Non-Capital tables. The Capital table is subdivided into the six limiting factors, with the progress since 2005 towards a particular target listed underneath each factor, along with the amount of the target remaining and the progress and associated cost needed for each target in the next three years. Under these lines are a list of the projects planned or needed between 2012-14, the anticipated sponsors, and the estimated costs. Funded projects are in green and projects in need of funding are in yellow. The capital table was organized in this manner to efficiently inform watershed stakeholders which areas are in most need of projects, and what other stakeholders have planned in the next three years under each limiting factor.

The projects listed in the Capital table are not exhaustive of the need, and projects consistent with this work plan but not listed are still considered a priority for funding. In some cases, the funding needed for the projects listed does not total the amount identified as needed over the next three years. The total identified as needed reflects the amount of work that needs to be completed in order to achieve the goals outlined in the WRIA 5 Chinook Recovery Plan. However, a lack of organizational capacity among watershed stakeholders has prevented the full investigation and identification of potential projects in order to add up to that total amount of needed funding.

The Non-Capital table is divided into seven categories: Hatchery; Harvest; Habitat Protection; Stewardship; Monitoring and Adaptive Management, Assessments, Data Gaps; Strategic Planning; and Watershed Coordination. Under each of these headers, projects and their lead organizations are listed, along with the anticipated costs for the next three years. Some of these projects are part of the watershed stakeholders' annual workplans and are fully funded. The need for all the projects is listed under the "Additional Funding Needed Next 3 years" column.

Summary of Progress and Need from the 3 Year Work Plan Spreadsheets

	Units	10 Year Goal	Progress since 2005	10-Year Goal Remaining	Three Year Funding Needed
Capital Needs for the Next Three Years					
Riparian	Acres	400	337.92	62.08	\$421,971
Estuary/ Nearshore	Acres	315	0	315	\$4,349,734
Large Wood		51	10	41	\$2,483,831
Floodplain	Acres	30	22.3	7.7	\$1,421,236
	Miles Armoring removed	4.1	0.2375 net added	4.3375	\$933,125
Sediment	Major Landslide Treatments	2	1	1	\$1,817,438
Acquisition	Acres	1445	558	887	\$8,239,454
Total Capital (3 Year)					\$19,666,789
Non Capital Needs for the Next Three Years					
Hatchery	program				\$329,700
Harvest	program				\$9,600
Protection	program				\$1,450,000
Stewardship	program				\$1,517,980
M&AM	program				\$3,973,225
Strategic Planning	program				\$54,750
Watershed Coordination	program				\$0
Total Non-Capital (3 Year)					\$7,335,255
Grand Total					\$27,002,043

Updated Response to the Most Recent (2011) RITT Comments

For a variety of reasons, including limitations in funding and social restrictions, WRIA 5 has been not meeting the restoration targets outlined in the Chinook Recovery Plan. WRIA 5 continues to struggle with the balance of restoring degraded habitat and protecting currently functional habitat. Today, the funding available for all projects is less than 25% of what is needed to meet the WRIA 5 Chinook Recovery Plan goals. Given the high cost of land acquisition, many watershed partners are choosing to

complete habitat restoration projects and rely on environmental regulations to protect functioning habitat. Stillaguamish Watershed Council members and partner organizations track and comment on local government regulations such as Critical Area Regulations, Shoreline Master Plans and Comprehensive Plan updates, but the SWC has not been proactive in providing formal recommendations to agencies with regulatory or funding authority on potential improvements.

The WRIA 5 Chinook Recovery Plan indicates that we will not recover Stillaguamish Chinook Salmon without changes made at the State, Federal and Local levels including: adequate in-stream flows, improved timber harvest protection in the rain on snow zone, improved water withdrawal oversight, improved water quality enforcement and compliance, improved habitat protections and enforcement on agricultural lands, and improved development regulations and enforcement watershed wide. Many of our biggest hurdles to recovery need action outside of the watershed.

Despite many challenges, Stillaguamish stakeholders are actively working on projects that address each limiting factor. Efforts are underway to remove bank armoring and dikes, allowing both the estuary and floodplain to recapture historic habitat. Partners are currently carrying out projects throughout the watershed which combine salmon recovery with water quality and water quantity benefits. A portion of the Stillaguamish PSAR 6% Capacity Fund has been allocated to fund an Integration Specialist position, housed within the Stillaguamish Tribe, to further these efforts. The implementation of a TMDL, In-stream Flow Regulations, and a Salmon Recovery Plan are occurring simultaneously.

Restoring floodplain and hydrologic function is essential to recovering Chinook Salmon in the Stillaguamish basin and are primary examples of the need to develop regional protection guidelines for actions beyond the scope of an individual watershed. Actions are needed to reduce increasing winter peak flows as well as to help increase summer low flows. Bank armoring and floodplain developments have to be addressed as impediments to recovering Stillaguamish Chinook salmon. Future development should not occur in the floodplain or impinge on critical ecosystem processes.

1. *What are the actions and/or suites of actions needed for the next three years to implement your salmon recovery chapter as part of the regional recovery effort?*

Currently the Stillaguamish watershed 3 Year Work Plan process does not have a screen or filter to prioritize or eliminate projects prior to inclusion. It has been our philosophy to allow the local ranking and state review process create a priority list of projects. However, the Stillaguamish stakeholders are aware of the critical limiting factors affecting Chinook production, and the various restoration goals for each factor. Project sponsors are advised to consult the Stillaguamish Chinook Recovery Plan for fit with the watershed strategy, and the most recent Monitoring and Adaptive Management report for targets most in need of restoration progress. Over the past decade, the watershed strategy has been to not prioritize among habitat limiting factors because the interactions between them are all interwoven and equally important. This view is changing, however; and the

Stillaguamish Technical Advisory Group will be considering a possible prioritization in 2012. There is a need to address factors that limit the ability to carry out critical project types needed to recover Chinook salmon, including: bank armoring removal, estuary restoration, and the reconnection of the main-stem river to its floodplain. Several projects or suites of projects are underway to reduce sediment, restore riparian areas, control invasive species, reconnect side channel habitat, and the installation of Engineered Log Jams (ELJ's) to both the North and South Forks.

2. *What is the status of actions underway per your recovery plan chapter? Is this on pace with the goals of your recovery plan?*

Projects on the Stillaguamish 3 Year Work Plan are a mix of large capital, small-scale capital and non-capital. Some of the limiting factors have a positive trajectory that could reach the ten year goal in time. Riparian restoration and sediment reduction are examples of actions moving forward as planned. Removal of hardened banks and reconnection of the river to its floodplain are examples of actions that are not only lacking in progress but are actually losing ground with increased bank protection and continued development of infrastructure in the floodplain. Placement of large wood is moving forward but not as quickly as planned and is not on target to meet the 10 year goals. Time has been taken to develop a prioritization plan for locating wood, riparian, side channel reconnection and cold water inputs, and permits are increasingly time consuming to obtain. The trend of increasing peak flows continues to be a perplexing issue confronting Chinook salmon. With an EPA grant, the Stillaguamish tribe is working to investigate the two main causes of the peak flow increase, land use and climate change, and determine the proportion of the effect that can be attributed to each.

3. *What is the general status of implementation towards your habitat restoration, habitat protection, harvest management, and hatchery management goals?*

With the exception of riparian restoration and landslide treatments, the Stillaguamish is not on track to meet its 10 year habitat goals. For the most part, insufficient progress is related to funding, as grant monies coming into the watershed are less than 25% of the need annually identified on the 3 year work plan.

Harvest management is on track to meet goals, with preseason negotiations typically adopting a fishing plan that is consistent with management objectives. However, post season analysis is lacking for the most recent years.

Some hatchery goals are being met (numbers released, survival, etc.) while others are not (timing, size at release, etc.). The co-managers are in the process up creating the Hatchery Action Implementation Plan (HAIP) for the Stillaguamish, and it should be completed in 2012.

See the 2011 Monitoring and Adaptive Management Report for a complete view of current status in relation to the habitat, harvest, hatchery, and protection goals.

4. *What are the top implementation priorities in your recovery plan in terms of specific actions or theme/suites of actions? How are these top priorities being sequenced in the next three years? What do you need to be successful in implementing these priorities?*

Our habitat implementation priorities are based on the six habitat limiting factors detailed in the WRIA 5 Chinook Recovery Plan. These factors are currently equally weighted as we feel there is a need to implement them all in order to bring about recovery. However, we are not making equal progress towards all the habitat goals simultaneously and are working to increase efforts in areas where we are currently falling behind (estuary, floodplain in particular). The Stillaguamish Technical Advisory Group is currently exploring the possibility of prioritizing these limiting factors based on the progress made toward each. Significant staff time will be spent in the coming three years working to move estuarine projects like Leque and Matterand forward, while ensuring that The Nature Conservancy's Port Susan Bay project is taken to completion. In addition, staff will be closely involved in the Sustainable Lands Strategy (SLS) process in the coming months and years as the group attempts to balance the needs of fish and farms.

In the meanwhile, watershed stakeholders are working on less controversial projects including: riparian planting, large wood placement, landslide and road treatment to reduce fine sediment input, and control of invasive species. Currently there are non-capital projects on the three year list, including harvest, hatchery, monitoring, and education and outreach. Most of these non-capital projects are not typically funded under many of the grant cycles used to accomplish habitat restoration projects. The Stillaguamish Chinook Recovery Plan describes how harvest, hatchery and habitat actions are integrated to bring about recovery, but it is often difficult to secure funding for the non-habitat H's. If H-Integration is truly a concept that the federal and state government support, it would be helpful if funding was available to implement projects in all categories.

5. *Do these top priorities reflect a change in any way from the previous three-year work program? Have there been any significant changes in the strategy or approach for salmon recovery in your watershed? If so, how and why?*

There are a few changes in the strategy or approach to salmon recovery in the Stillaguamish from previous three-year work plans. During the 2010-2011 time period there was an increase in the focus on acquisition occurring throughout the Stillaguamish watershed. The most effective way to implement large scale restoration projects, especially those that are controversial such as estuary and floodplain projects, is if title is held to the parcels where the work will take place. Voluntary landowner actions are limited in their effectiveness towards recovery efforts and more aggressive action is needed in many instances. Forterra and the Stillaguamish Tribe have partnered on acquiring property on the North and South Fork. The Tribe recently purchased, and is in the process of restoring, 60 acres on the South Fork Stillaguamish. The City of Arlington purchased the Graafstra property, 138 acres near the confluence, in 2010. All the above properties have river frontage, and include associated channel migration zones.

An additional change in strategy is the Stillaguamish Tribe's South Fork Chinook Supplementation Project. This project was identified as a high priority as the fall-run Chinook salmon in the Stillaguamish appear to be on a precipitous slide towards extinction, based on recent escapement estimates. The project was designed to enhance the fall population (identified as genetically distinct from the Stillaguamish summer population) by implementing a wild stock supplementation program until harvest and habitat actions recover the stock to a sustainable level. It was believed the current population is hovering around 100+ fish and the risk of extinction is very high. One of the main goals of this project is to increase the survival of juvenile fish, primarily in the egg to fry life history stage. Data collected at the mainstem smolt trap shows that during large storm events survival in both the North and South Forks is very low (<5%), hence the goal of initiating a wild stock supplementation program.

Initially, the goal was to capture 15-20 adult males and females and spawn them, similar to the program the Tribe has implemented on the North Fork of the Stillaguamish River. Extensive snorkel surveys were conducted in the South Fork Stillaguamish to locate holding pools of adult Chinook. This proved to be unsuccessful as surveyors rarely found groups of 5 or more Chinook. Dive surveys were also conducted in the mainstem Stillaguamish and lower North Fork Stillaguamish to attempt to locate fall timed Chinook, as genetic analysis showed that fall and summer timed Chinook are mixed within the watershed. These surveys were also unsuccessful. Given the inability to locate large groups of adult Chinook to broodstock, staff took to floating and broodstocking in smaller holes throughout the South Fork Stillaguamish. To date, only male Chinook have been collected during broodstock efforts in the South Fork Stillaguamish. Given the difficulty in catching adult broodstock from the South Fork Stillaguamish the Tribe altered their approach and had each adult Chinook captured out of the North Fork Stillaguamish (for the NF Stillaguamish wild stock supplementation program) genetically analyzed, to determine assignment i.e fall or summer timed. Results showed there were fall timed Chinook holding (and spawning) in the North Fork Stillaguamish. Staff were able to isolate the fall timed adult Chinook and in 2010 one pair of adult fall timed Chinook were spawned. In 2011 two females and seven male fall timed Chinook were spawned.

Offspring from the 2010 broodyear (approx 4,500) were reared at the Stillaguamish Tribe's Harvey Creek Hatchery. They were acclimated and released in the late spring of 2011 from the newly purchased Stillaguamish Tribe's Brenner Creek Hatchery facility (the same process will be undertaken for 2011 Brood as well). Eventually all spawning, rearing and releasing will occur at the Brenner Creek Hatchery facility once it is fully operational (fall 2012). The ultimate goal is to release approximately 50-60,000 Coded Wire Tagged fry annually. Given the difficulty in capturing adult broodstock it may take years to reach this release goal.

As a result of the difficulty in capturing adult broodstock, in 2009 the Tribe initiated a captive brood program for the South Fork Chinook supplementation program. Staff seined juvenile Chinook out of the South Fork Stillaguamish. Each fish was held

individually in "condos" until genetic analysis was complete, to assign them to either the fall or summer population. The goal is to collect 500 juveniles each year for the captive brood program. With a projected fry to adult survival rate of approximately 60%, the short term goal is to capture and raise enough Chinook to produce up to 200,000 age zero smolts for release each year with the program target of having enough returning program and wild spawners to keep the composite escapement for fall timed Chinook above 500 adults. Once enough natural spawners become available, the captive broodstock program will be terminated and adult broodstock collection will resume, given the probability of greater success in capturing adult Chinook.

6. *What is the status or trends of habitat and salmon production in your watershed?*

Natural escapement of both summer and fall Chinook salmon has remained relatively steady since the 1980s (Fig. 1).

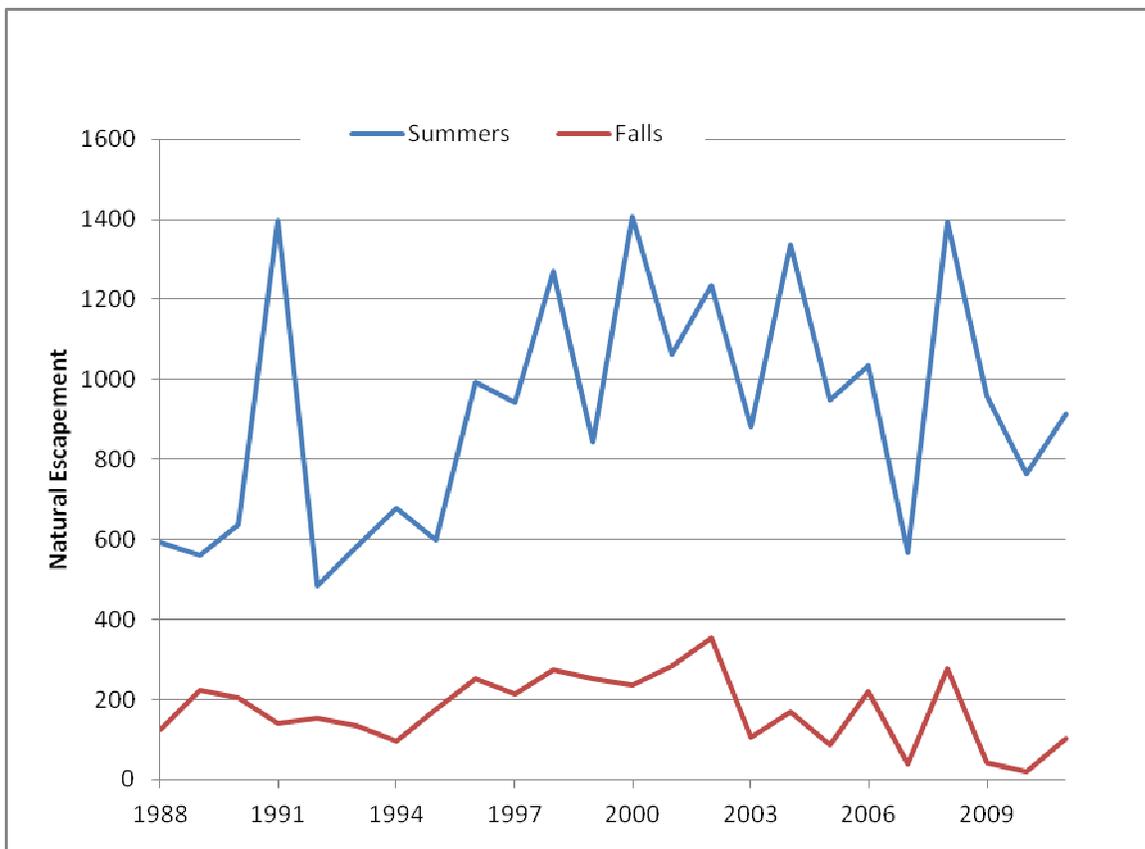


Figure . 1 Natural escapement of Summer and Fall Stillaguamish Chinook salmon, 1988-2011. Fish removed for hatchery broodstock are not included in these figures. SOURCE: WDFW spawning escapement surveys.

The natural origin portion of the natural escapement shows a different pattern, with both natural origin summer and fall populations exhibiting a decline, over the past decade, (Fig. 2). However, the decline may not be as dramatic as indicated in the figure as poor survey conditions limit escapement estimation in years with higher autumn flows (2007, 2010).

Because exploitation rates on Stillaguamish Chinook have continued to decline (Fig. 3) without a corresponding increase in escapement, it is possible that the productivity and capacity of Chinook habitat in the Stillaguamish basin continues to decline, or is not improving. It is also possible that the declines observed for both summer and fall populations in the last decade have been driven by poor ocean/nearshore conditions.

The decline in the natural origin portion of the South Fork population, combined with recent genetic evidence that this group remains a unique population, has resulted in the evaluation of a captive brood program to prevent extinction of this population.

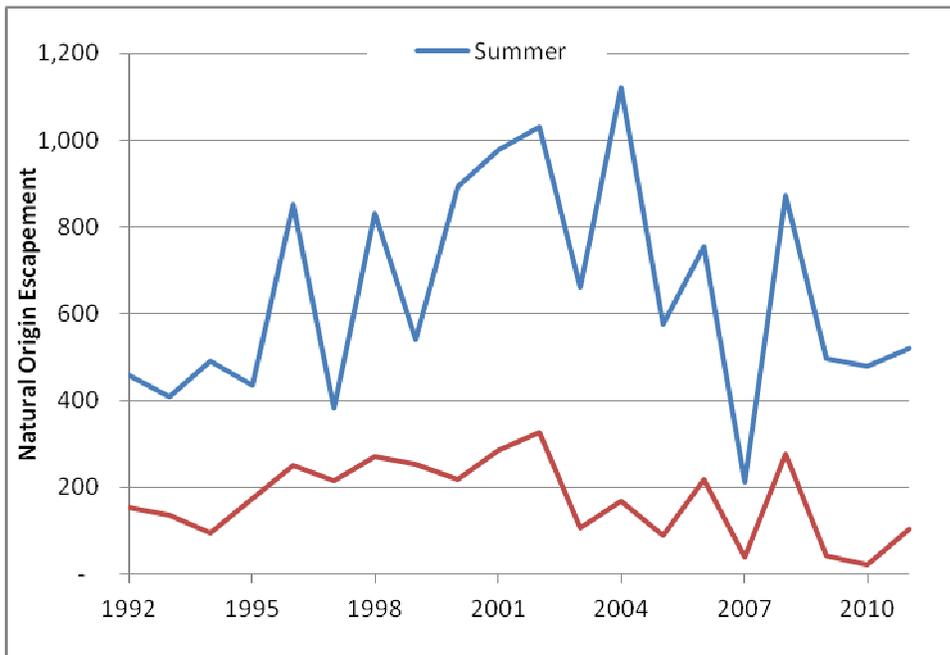


Figure 2. Summer and Fall Stillaguamish natural origin Chinook escapement, 1992-2011. Does not include fish removed for hatchery broodstock. SOURCE: Sampling data from the Stillaguamish Tribe applied to total escapement estimates in Fig. 1.

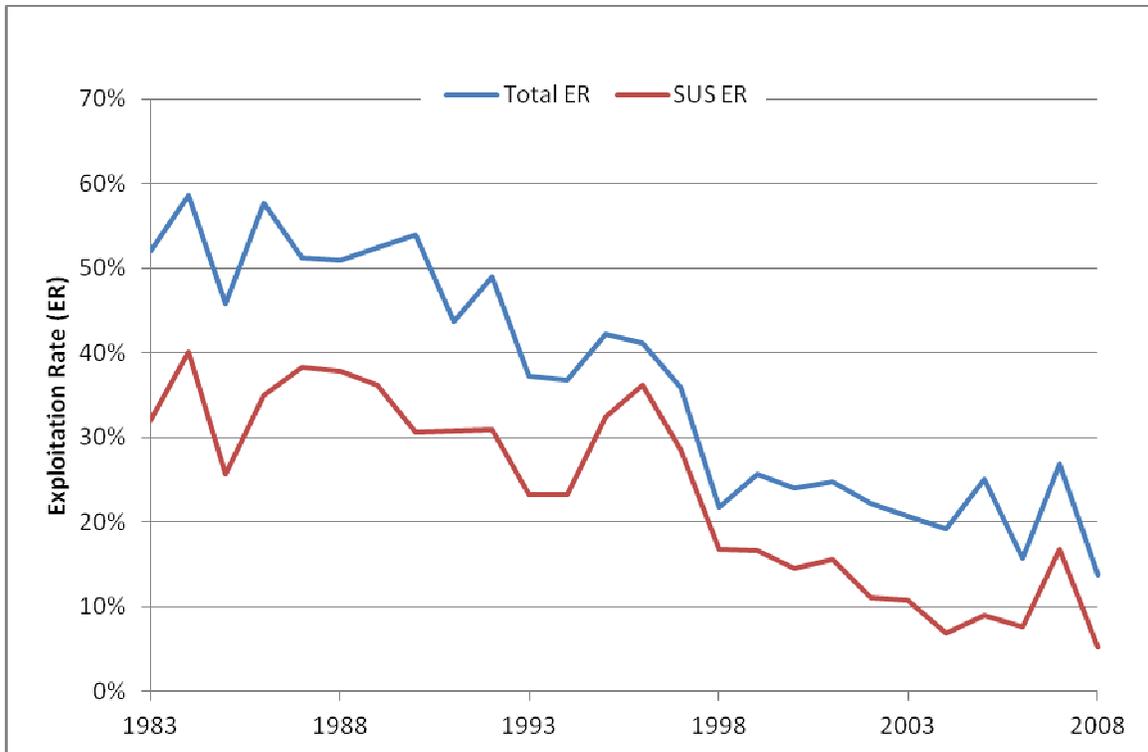


Figure 3. Annual exploitation rate on Stillaguamish Chinook salmon as measured by post-season FRAM runs, 1983-2008. “Total ER” is the estimate of the fraction that the potential escapement was reduced by all sources of fishery-related mortality. “SUS ER” is the part of that that occurred in United States waters south of the southern United States- Canada border. SOURCE: Northwest Indian Fisheries Commission and WDFW post-season FRAM runs, 2009.

7. Are there new challenges associated with implementing salmon recovery actions that need additional support? If so, what are they?

Unfortunately for the progress toward Chinook salmon recovery, many of the challenges faced by the stakeholders and project sponsors in the Stillaguamish watershed are not new, and have been faced year after year. Challenges such as habitat decline, limited funding and capacity, and public support and awareness are just a few significant barriers to achieving the success the WRIA 5 Chinook Recovery Plan strives for.

While difficult to quantify, some habitat conditions appear to be declining across the watershed. Mature forest cover and riparian forest cover has been declining since 1991 based on Snohomish County land cover analysis (SnoCo 2008). Total impervious area in the watershed continues to rise as more homes are built and land cleared for housing and associated infrastructure. Most years since monitoring began in 2005 have shown more bank armoring added than is removed (see the 2011 Monitoring and Adaptive Management Report) and, in general, we are not making progress to connect the Stillaguamish to its floodplain or estuary. Enforcement of regulations is usually complaint driven and is ineffective at preventing and mitigating ongoing degradation of habitat.

The goals outlined in the WRIA 5 Chinook Recovery Plan were based on an assumption that no further degradation would take place, however it isn't clear whether this was a valid assumption. A Snohomish County commissioned study evaluating the effectiveness of the County's Critical Areas Regulations has recently been finalized and released. The study suggests there is a low level of continued, unpermitted habitat loss, but the level is below that which would trigger adaptive management. The challenge to recovery is that habitat degradation is still occurring and restoration efforts may not be enough to balance the loss.

Funding continues to be a challenge as the watershed is typically funded at less than 25% of the need identified in the 3 Year Work Plan. This challenge has two parts, the first is a general limitation of funds and organizational capacity to do projects. Many watershed stakeholders are currently performing at their organizational capacity, and are incapable of taking on additional projects despite the need for recovery. The second is the structure of the funds currently available. Match requirements for grants continues to limit the participation of stakeholders in recovery efforts. Chinook projects are large and expensive, and the associated match needed to secure funding is often a barrier to smaller organizations. Even for larger organizations, grant reporting is complicated by match reporting, needlessly delaying projects and increasing administration costs. Not only this, but staple grants, such as the Salmon Recovery Funding, do not fully cover staff time or indirect costs. This can be problematic for Not for Profit organizations that are suffering a decrease in donations from the public with the downturned economy. These donations would typically bridge the funding gap and allow these types of organizations to perform larger salmon recovery projects. Recently, the Executive Director of a non-profit organization in the Stillaguamish stated that the organization will no longer be pursuing SRF Board money since it is unsustainable for the organization to pursue grants that do not cover indirect costs. This leaves the Stillaguamish Tribe and Snohomish County as the most active project sponsors since they have additional, more stable funding sources that can cover indirect costs and staff time.

Social and political issues are increasingly having an effect on salmon recovery projects. Watershed stakeholders continue to struggle to integrate farmland preservation and salmon recovery efforts in the basin. The local farm bureau has taken a stance of no-net-loss of Agricultural ground that seems primarily directed at habitat restoration projects, despite willing landowners wishing to sell their farms for restoration. The Snohomish County Executive has established the Sustainable Land Strategy (SLS) to tackle the issue of agricultural and fish land use. The executive committee of SLS is made up of eight members appointed by the County including 4 agricultural members, two Tribal leaders, Futurewise/Pilchuck Audubon and Forterra. Their goal is to increase both agricultural productivity and ecosystem function within the Lower Stillaguamish and Estuary. It is uncertain how this process will affect the progress toward achieving the 50 year habitat goals in the Chinook Recovery Plan. Meanwhile, critical area regulations on agricultural lands have not been updated based on best available science because of the timeout for the Ruckelshaus process. Critical area regulations for agricultural lands based on best available science will be updated by July 2013.

Social and political pressure is, however, affecting particular projects significantly. The Leque Island and Matterand projects are not only facing opposition from agricultural groups, but also waterfowl hunters, and local water associations. The SLS process underway is not likely to address these additional pressures, but the simple fact the process is underway is increasing the sensitivity around estuary and floodplain projects. The continuation of watershed partners in pursuing estuary and floodplain projects necessary for salmon restoration has been seen as disingenuous to the SLS process.

The stakeholders in the Stillaguamish continue to struggle to make meaningful progress towards bank armoring removal targets listed in the Chinook Recovery Plan. The Stillaguamish Flood Control District has been vocal that any removal of bank armoring should be well thought out, as they are worried that restoration efforts could lead to increased channel migration and destruction of existing infrastructure. However, in order to meet our habitat goals, at least 4.1 miles of armoring must be removed, allowing the river to migrate and recapture a portion of its historic floodplain. It is extremely challenging to find creative solutions that combine salmon restoration and flood/infrastructure protection.

Another area of concern from the Flood Control District and others is the acquisition of land for protection with little or no funding for stewardship, maintenance, or restoration. This is an on-going problem that, again, requires a regional fix. Dedicated funding needs to be created in order to steward these properties for decades to come. Eventually mother nature will assist in natural succession, but with Stillaguamish salmon populations on the brink of extinction additional monies for restoration and stewardship is key to making the societal shifts necessary for recovery.

The farm/fish conflicts in the Stillaguamish are not isolated to our watershed, and are indicative of a general lack of societal will to place salmon recovery efforts on the same footing as agricultural and recreational interests. We would request that PSP and NOAA fisheries become more active in helping to market salmon recovery efforts in the region, and smooth the way for implementation of the Puget Sound Chinook Plan. Meanwhile, the Co-Lead entity in the Stillaguamish will continue to try and resolve the issues limiting progress towards our habitat restoration goals

Three-Year Stillaguamish Salmon Recovery Work Plan: 2012 - 2014

Capital Projects from Plan
 Funded 2005-date
 Proposed/Pending Funding

Numbers in [] indicate amount of progress that is anticipated by 2013.
 Question marks means projects may not realize goal by 2013

Capital projects and programs

Project Type/Name	Units	Quantity	Sponsor	Project/Program Status	Cost/Unit	Total Cost for 10 Year Goal	Next 3 Year Cost	2012	2013	2014
Riparian	Acres planted (In priority areas)	400	Many	10 year Goal	\$9,063	\$3,625,182	\$421,971	\$140,657	\$140,657	\$140,657
Progress between 2005 and 2011	acres	337.92								
Total 10 year Target Amount Remaining	Acres	62.08				\$562,628				
Progress Needed in 2012-2014	acres	46.56					\$421,971	\$140,657	\$140,657	\$140,657
Projects Planned for 2012-2014:										
Riparian Inmate Crew			Stillaguamish Tribe	Ongoing - Funded through 2012						
South Fork Big Trees			SnoCo	Ongoing						
North Fork Big Trees			SnoCo	Ongoing						
Mainstem Big Trees			SnoCo	Ongoing						
Estuary	Acres tidal marsh restored	195	TNC, Tribes, WDFW, Counties	10 year Goal	\$24,771	\$4,830,345	\$3,622,759	\$1,207,586	\$1,207,586	\$1,207,586
	Acres tidal marsh created	120	TNC, Tribes, WDFW, Counties	10 year Goal	\$8,078	\$969,300	\$726,975	\$242,325	\$242,325	\$242,325
Progress between 2005 and 2011	acres	0								
Total 10 year Target Amount Remaining	Acres	315				\$5,799,645				
Progress Needed in 2012-2014	acres	236.25					\$4,349,734	\$1,449,911	\$1,449,911	\$1,449,911
Projects Planned for 2012-2014:										
Leque Island Restoration	Acres	115	DU/WDFW	Pending			\$2,000,000	\$666,667	\$666,667	\$666,667
Matterand Acquisition and Restoration	Acres	[90]	Stillagaumish Tribe	Pending			\$1,500,000	\$500,000	\$500,000	\$500,000
Ellingsen Acquisition and Restoration	Acres	[90]	Stillagaumish Tribe	Proposed			\$1,000,000	\$333,333	\$333,333	\$333,333
Port Susan Bay Preserve Dike Removal	Acres	[180]	TNC	Ongoing						

Capital projects and programs

Project Type/Name	Units	Quantity	Sponsor	Project/Program Status	Cost/Unit	Total Cost for 10 Year Goal	Next 3 Year Cost	2012	2013	2014
Large Wood	Large river ELJs	51	Stillaguamish Tribe, Snohomish County, Sno. Cons. District	10 year Goal	\$80,775	\$4,119,525	\$2,483,831	\$827,944	\$827,944	\$827,944
Progress between 2005 and 2011	Large river ELJs	10								
Total 10 year Target Amount Remaining	Large river ELJs	41				\$3,311,775				
Progress Needed in 2012-2014	Large river ELJs	30.75					\$2,483,831	\$827,944	\$827,944	\$827,944
Projects Planned for 2012-2014:										
North Fork ELJs	Large river ELJs		Stillaguamish Tribe	Ongoing						
South Fork ELJ's	Large river ELJs		SnoCo	Ongoing						
South Fork ELJ's Phase II	Large river ELJs		SnoCo	Partially funded			\$525,000	\$175,000	\$175,000	\$175,000
Jim Creek ELJ Design	Large river ELJs		SSS	Partially funded						
Pilchuck Creek Woody Debris Design	Large river ELJs		SnoCo	Proposed 2012			\$150,000		\$100,000	\$50,000
Pilchuck Creek Woody Debris Construction I	Large river ELJs		SnoCo	Proposed 2013-4			\$50,000			\$50,000

Capital projects and programs

Project Type/Name	Units	Quantity	Sponsor	Project/Program Status	Cost/Unit	Total Cost for 10 Year Goal	Next 3 Year Cost	2012	2013	2014
Floodplain	Miles armoring removed	4.1	Various	10 year Goal	\$333,870	\$1,368,867	\$933,125	\$311,042	\$311,042	\$311,042
Progress between 2005 and 2011	Miles	0.37								
Total 10 year Target Amount Remaining	Miles	3.73				\$1,244,167				
Progress Needed in 2012-2014	Miles	2.79					\$933,125	\$311,042	\$311,042	\$311,042
Projects Planned for 2012-2014:										
Jim Creek Restoration Design	Miles Removed		SSS	Ongoing						
Chatham Acres Armoring Removal	Miles Removed	[0.1]	SnoCo	Complete						
	Acres restored	30	Various	10 year Goal	\$123,855	\$3,715,650	\$1,421,236	\$473,745	\$473,745	\$473,745
Progress between 2005 and 2011	Acres	14.7								
Total 10 year Target Amount Remaining	Acres	15.3				\$1,894,982				
Progress Needed in 2012-2014	Acres	11.475					\$1,421,236	\$473,745	\$473,745	\$473,745
Projects Planned for 2012-2014:										
North Meander	Acres restored	6.3	SnoCo	Complete						
Blue Slough Phases II-III	Acres restored	[3.5]	Stillaguamish Tribe	Complete						
Hazel Sidechannel (formed by Hazel ELJs)	Acres restored	0.4	Stillaguamish Tribe	Complete						
South Meander- Final Design	Acres restored		SnoCo	Proposed			\$165,000	\$55,000	\$55,000	\$55,000
South Slough Feasibility and Design	Acres restored		SnoCo/Arlington/Tribe	Planned			\$200,000	\$66,667	\$66,667	\$66,667

Capital projects and programs

Project Type/Name	Units	Quantity	Sponsor	Project/Program Status	Cost/Unit	Total Cost for 10 Year Goal	Next 3 Year Cost	2012	2013	2014
Sediment	Landslide treatments	2	Stillaguamish Tribe	10 year Goal	\$2,423,250	\$4,846,500	\$1,817,438	\$605,813	\$605,813	\$605,813
Progress between 2005 and 2011	Acres	1								
Total 10 year Target Amount Remaining	Acres	1				\$2,423,250				
Progress Needed in 2012-2014	Acres	0.75					\$1,817,438	\$605,813	\$605,813	\$605,813
Projects Planned for 2012-2014:										
Steelhead Haven Slide Remediation	Landslide treatments	1	Stillaguamish Tribe	Ongoing						
Gold Basin Feasibility and Design	Landslide treatments	[1]	Stillaguamish Tribe- USFS	Ongoing						
Gold Basin Implementation	Landslide treatments	[1]	Stillaguamish Tribe- USFS	Proposed						
	Forest Road Treatments	106	USFS, WADNR, Tribes	10 year Goal	\$43,080	\$4,566,480	\$3,424,860	\$1,141,620	\$1,141,620	\$1,141,620
Progress between 2005 and 2011	Acres	0								
Total 10 year Target Amount Remaining	Acres	106				\$4,566,480				
Progress Needed in 2012-2014	Acres	79.5					\$3,424,860	\$1,141,620	\$1,141,620	\$1,141,620
Projects Planned for 2012-2014:										
Segelson Road Treatments	Road Treatments	?	Snohomish Conservation District	Complete, staff changes made for reporting problems						
Deer Creek Headwaters Erosion Control	Road Treatments	?	Snohomish Conservation District	Complete, staff changes made for reporting problems						
Higgins Instream	Sediment Stored	?	Stillaguamish Tribe- USFS	Complete, monitoring data incomplete						
Canyon Creek Roads Phase I&II	Road Treatments	21.6	Stillaguamish Tribe-USFS	Phase I Funded, Phase II still needed						
Gold Basin Construction	Landslide treatments	[1]	Tribe/USFS	Proposed			\$1,500,000	\$500,000	\$500,000	\$500,000

Capital projects and programs

Project Type/Name	Units	Quantity	Sponsor	Project/Program Status	Cost/Unit	Total Cost for 10 Year Goal	Next 3 Year Cost	2012	2013	2014
Protection/Acquisition	Acres acquired in Priority Reaches (Floodplain, Riparian, Large Wood, Estuary)	1445	Tribes, CLC, WCLT, TNC	10 year Goal	\$12,386	\$17,897,048	\$8,239,454	\$2,746,485	\$2,746,485	\$2,746,485
Progress between 2005 and 2011	Acres	558								
Total 10 year Target Amount Remaining	Acres	887				\$10,985,939				
Progress Needed in 2012-2014	Acres	665.25					\$8,239,454	\$2,746,485	\$2,746,485	\$2,746,485
Projects Planned for 2012-2014:										
Arney Acquisition/Restoration	fee simple	19.35	CLC/Stillaguamish Tribe	Funded, Closed, restoration ongoing						
Graafstra Floodplain	fee simple	137	City of Arlington	Funded, Restoration ongoing						
Pilchuck Wetland/Floodplain	fee simple	70	Stillaguamish Tribe	Funded, Restoration ongoing						
Fish Creek Buffalo Farm	fee simple	56	Stillaguamish Tribe	Funded						
Grandy Lake C-Post	Easement	80	CLC	Complete						
PTF Hazel Hole Conservation	Easement	26	DNR	Complete						
French-Segelson Acquisition/Restoration	fee simple	103	CLC	Complete						
Klein Farm Acquisition	fee simple	60	Stillaguamish Tribe	Funded, Restoration ongoing						
Noble Acquisition	fee simple	[137]	Stillaguamish Tribe	Funded, will close 2011						
Rengen Acquisition	fee simple	[210]	Tribe/CLC	Proposed			\$4,000,000	\$1,333,333.33	\$1,333,333	\$1,333,333
Gardner Acquisition	fee simple	[3]	Tribe	Proposed			\$150,000	\$50,000.00	\$50,000	\$50,000
Sierra Pacific Upper NF Timberland Acquisition	fee simple	[1000]	Tribe/CLC	Proposed			\$1,000,000	\$333,333.33	\$333,333	\$333,333
Deer Creek Timberland Acquisition	fee simple	[1000]	Tribe/CLC	Proposed			\$1,000,000	\$333,333.33	\$333,333	\$333,333
ARO (Tree Farm Hole) Acquisition	fee simple	[126]	Tribe	Partially Funded			\$800,000	\$266,666.67	\$266,667	\$266,667
					Total capital need	\$45,938,897	\$23,091,649	\$7,697,216	\$7,697,216	\$7,697,216