

**SUMMARY NARRATIVE**  
**HABITAT RESTORATION**  
**AND PROTECTION CAPITAL PROGRAM**  
**2009 UPDATE**

**Overview**

For the 2009 *Skagit Basin Three-Year Work Program (3 Year Project List)* update the focus is primarily on the Habitat Restoration and Protection Capital Program, which identifies actions targeted at the recovery of Chinook salmon populations in the Skagit watershed. This update was accomplished by the Skagit Watershed Council's Restoration and Protection Committee.

All other aspects of the previous 2008 *Three-Year Work Program*, including Harvest and Hatchery operations, remain the same and have not been carried forward in this update.

The Capital Program takes as its foundation the *Skagit Chinook Salmon Recovery Plan*, developed by the Skagit River System Cooperative (SRSC) and Washington Department of Fish and Wildlife (WDFW). The proposed actions also provide valuable habitat benefits to non-listed species including pink, chum, and coho salmon.

**Changes to the Three Year Habitat Capital Project List for 2009**

The format of the list has been adapted to comply with the revised regional template. The following formatting features of the spreadsheet list are intended to facilitate review. Projects are color-coded by status as follows:

- Added to the list for 2009
- Removed from 2009 list
- In progress phased implementation and funding

A certain amount of cleaning up the list has been done this year. A number of projects have been removed, some because they will not reasonably be started within 3 years as noted in the project description column. Multiple projects under a single project title have been removed and only those proposed or active portions of those projects or actions are listed. Completed projects in need of post-project construction monitoring have been moved from the habitat capital projects section of the list to the non-capital habitat project monitoring section.

Project cost estimates were updated based on new or better information. Where projects are informed by feasibility studies, cost estimates are more accurate. Others are based on the cost of similar work. Cost estimates for projects in the feasibility or concept stages are rough estimates.

We were able to fund 4 projects last year with SRFB funds, and 2 from PSAR funds available from 2007. Some of those 2007 PSAR funds went to cover cost increases for the Wiley Slough Restoration project.

Not all projects or project concepts have defined performance goals yet. This will be resolved during further implementation of the Habitat Work Schedule this year, which will enable us to gauge progress from restoration actions toward recovery goals.

There are plans to do more focused project development this year to refine priorities for significant gains toward recovery goals. In the interim, the list remains organized by focus/population areas with projects distributed among them.

### **Background for Habitat Capital Program**

The Work Plan is based upon recognition that the Skagit watershed possesses the largest and most diverse landscape for salmon in the Puget Sound. It can be divided into several key ecological areas (ecoregions) that possess unique topographical, geological, hydrological, and vegetative characteristics. The recovery strategy recognizes that the independent populations of chinook salmon have evolved with and are adapted to the unique habitat conditions, including flow patterns, water quality characteristics, and channel characteristics present in each area. Protecting and restoring the unique habitat characteristics in each sub basin or ecoregion, including those ecological processes that form and maintain habitat, is the fundamental goal of this Work Plan.

There are seven ecoregions delineated within the Skagit watershed based upon physiography (topography, geology, and vegetation) characteristics, hydrology, and the spatial distribution of chinook populations in the watershed. These are:

- Marine nearshore areas including Skagit Bay;
- Skagit River delta including estuary and freshwater tidal areas;
- Lower and Middle Skagit River;
- Upper Skagit River;
- Sauk River;
- Suiattle River; and
- Cascade River.

The Skagit basin possesses 6 independent populations of chinook salmon, with a total of 22 independent chinook populations present in the Puget Sound. The Skagit chinook populations are comprised of a single fall stock (lower Skagit River), two summer stocks (upper Skagit and lower Sauk Rivers), and three spring stocks. The six populations are genetically unique, and have different spawning migration timings, habitat requirements, and life history traits. In setting chinook recovery objectives for the Puget Sound, the Puget Sound Technical Recovery Team (TRT) specified that all 22 populations of chinook “must improve from current conditions”. The TRT has identified that one of the Skagit early-run (i.e. spring) chinook populations needs to achieve low risk status to meet ESU recovery goals.

There are two basic life-history forms (or guilds) of salmonid fish in the Skagit watershed. The first are called "ocean-type" fish, and spawn in the main stem and tributary areas of the Skagit but rear in these areas for only a relatively short time (days to weeks) before migrating downstream as fry. Ocean-type fish include summer and fall chinook salmon, chum salmon, and pink salmon. Because ocean-type juveniles spend relatively little time in their natal streams, they are dependent upon channel margin habitats of the lower and middle main stem Skagit, and the distributary channels and blind sloughs of the Skagit delta and Skagit Bay, for foraging and rearing. The second basic life-history form are called "stream type" fish because they spawn in the middle reaches and headwater areas of the watershed, and then rear as juveniles in these areas for one or more years before migrating. Stream-type fish present in the Skagit watershed include spring chinook salmon, bull trout, and steelhead trout. Stream-type fish are better adapted to the habitat conditions present in the headwater areas of the watershed, including the cold winter temperatures and highly variable flows characteristic of snowmelt and glacial streams. Coho salmon also have a stream-type life history, but spawn and rear mainly in the floodplain areas of the watershed where they are the dominant fish species.

There is high degree of variability in life-history traits of Skagit salmonids that extend far beyond the basic delineation of "ocean-type" and "stream-type" fish. This variability is most evident in chinook salmon. Ocean-type Chinook employ several life-history strategies in the Skagit, including parr migrants (rearing in mainstem river and freshwater tidal areas), estuary users (rearing in estuary sloughs and distributaries), and fry outmigrants (very limited freshwater and estuary rearing). Bull trout have four different life-history forms in the Skagit: stream resident (adults remain in headwater streams), fluvial (adults reside in mainstem rivers), adfluvial (adults reside in lakes), and anadromous (adults migrate into Puget Sound).

The fundamental objectives of this Work Plan are:

- 1) Improve the abundance of those species that are listed under the ESA. This will be achieved by protecting and restoring those areas most important to the survival of these fish during critical periods in their life-history, including migration and foraging habitat in the middle and lower Skagit, and brackish water habitat important to growth and smoltification (i.e., physiological transition from freshwater to saltwater) provided the Skagit Delta, Skagit Bay, Swinomish Channel, and pocket estuaries.
- 2) Improve the strongest populations of chinook salmon to sustainable and harvestable numbers.
- 3) Sustain and improve life history variability and genetic diversity of chinook salmon throughout the watershed. Protecting and restoring rearing habitat in the streams and rivers of the upper watershed areas will improve the abundance of stream-type fish including spring chinook. Restoring a broad range of historically important habitats will improve the life history diversity of chinook salmon life by providing a wider variety of habitats to these

species. Improving habitat diversity is the most important step towards improving life history diversity.

- 4) Develop and implement a set of rapid recovery actions that reduce the extinction risk of the weakest populations in the watershed.
- 5) Build organizational capacity among project sponsoring organizations.
- 6) Develop broad-based partnerships and community support for salmon recovery through public outreach and education.
- 7) Improve the watershed's capacity to fund and complete large-scale protection and restoration projects by fostering long-term partnerships among agencies, tribes, conservation groups, and other local stakeholders.
- 8) Support a strong research and monitoring program that will guide the recovery process in the future.
- 9) Implement an adaptive management process that will continually refine and redirect recovery actions.

The combined set of actions included in the Work Plan is targeted at meeting the Viable Salmon Population (VSP) recovery elements established by the Puget Sound Chinook TRT. The objectives outlined above are intended to meet the recovery goals defined for the Skagit watershed by the TRT.

### **Answers to Questions posed for 2009**

#### *Consistency*

1.

#### *Pace/Status*

2.

3.

#### *Sequence/Timing*

4.

#### *Next Big Challenge*

5. There is no change as such from the previous year; rather, there is continued endeavor and refinement as we strive to move our capital program onto a recovery trajectory. Through our ongoing Habitat Work Schedule activities we are proceeding in our effort to drill down on quantifying how specific projects contribute to recovery goals. And through the Middle Skagit Project we are testing a new proactive approach to identifying and prioritizing the best opportunities to restore large-scale floodplain function.

6. Regarding the status or trends of habitat and salmon populations in the Skagit,

7. The challenges to implementation are what they have been from the outset: Lack of support for the plan and no recognized forum to address coordination of all the Hs. The Watershed Council has the authority to address the capital program and undertakes that responsibility fully. The Watershed Council Board recognizes the need for coordination and, over the next year, will host one or more meetings with those agencies responsible for other Hs for the

purpose of sharing information and developing better understanding regarding who is doing what. The Watershed Council will also engage in the Adaptive Management and Monitoring work being initiated by the RITT this summer, which will indeed be a new challenge for the Council. This work, being all-H-based, will by necessity require the engagement of responsible entities in a circle larger than the Council is now working

### **Background and Context for Habitat Projects (not changed from 2008)**

Habitat projects identified in the Work Plan are ordered geographically from the nearshore and estuary to the mountainous headwaters. The narrative below describes the relative importance of each of the geographical categories and is not intended to imply that work done in one habitat type will provide recovery on its own. On the contrary, habitat work from the bay to the mountains is key to reestablishing viable Skagit chinook populations and ensuring their viability into the future.

The estuary and nearshore habitats have been identified as key to the recovery of Skagit chinook. Research studies and smolt outmigration monitoring indicate that the greatest portion of chinook in the watershed have an ocean type life history. The brackish estuary and nearshore areas have been found to be extremely productive areas, crucial to the success of Skagit chinook. As juveniles, the fish spend a period of weeks to months gradually adapting to the saltwater and foraging, gaining strength for their next life stage in the saltwater environment. Observations indicate that the estuary areas are filled to capacity and that a portion of the broods are forced to bypass the Skagit delta and seek rearing habitats elsewhere. Although a saltwater fry life history type has been shown to be present, information on the origin of returning adults confirms that individuals able to rear in the brackish delta areas are much more likely to return successfully. Skagit scientists have discovered that the smaller nearshore embayments associated with small freshwater systems provide an alternate rearing area to fish that are unable to find room in the estuary – and have termed these areas “pocket estuaries.”

#### Nearshore

Projects planned in the nearshore are intended to restore and retain pocket estuary habitats, and to restore and preserve the natural geological beach processes that create and maintain nearshore forage fish habitats. Research studies have found that the nearshore areas of the Skagit watershed provide

important migratory and foraging habitat to chinook salmon juveniles and bull trout. A *Spartina* eradication project is also included.

The proposed nearshore projects are intended to protect and restore key ecological processes to nearshore habitats, including:

- Restore connectivity among nearshore areas and marsh habitats ;
- Address water quality and ditching in the headwater wetlands;
- Protect sediment source beaches;
- Restore inter tidal pocket estuary habitat by removing fill and creating a new outlet channels
- Protect and restore sediment source beaches.

### Estuary and Freshwater Tidal Area

The estuary and freshwater tidal areas of the Skagit watershed include the Skagit River delta, Skagit Bay, and Swinomish channel. These habitat areas have been a central focus of protection and restoration efforts within the Skagit watershed. The estuary represents the most productive and one of the most ecologically diverse habitat areas in the watershed. Freshwater tidal areas in the Skagit delta represent historically abundant habitat that provides rearing and refuge habitat to out-migrating chinook. Ocean-type chinook salmon juveniles are dependent upon these habitats for growth and survival. The estuary and freshwater tidal areas of the Skagit are also used as foraging habitat by anadromous bull trout, which are a dominant life history form of this listed species in the Skagit.

Projects planned in the estuary and freshwater tidal areas are aimed at restoring access to isolated habitats, re-establish migration pathways among existing habitats, and restoring the hydrological and ecological processes that form and maintain these habitat areas. Specific estuary and tidal wetland project objectives include:

- Removing hydraulic controls that limit the development of channel networks and native vegetation;
- Improving habitat connectivity and capacity (e.g., restoring the connectivity between the Swinomish Channel and the North Fork of the Skagit River);
- Restoring riverine tidal wetland habitats for juvenile rearing;
- Expand estuarine emergent marsh rearing habitat.

Many of projects estuary and freshwater tidal projects identified in the Work Plan are presently underway, and have been successfully developed through the partnership of organizations including SWC, SRSC, WDFW, TNC, Western Washington Agriculture Association, and U.S. Fish and Wildlife Service.

### Lower / Middle Skagit

Historically the lower Skagit River migrated and flowed across a wide floodplain characterized by diverse off channel wetlands, complex side channels, and low

energy sloughs. Since about the turn of the last century efforts have been made to confine the river into a single channel thereby completely eliminating off channel habitat or cutting off migration to that which remained. Observations show that these lost habitats are important to many of the life history types of each of the Skagit chinook stocks. Life history types that depend on the estuary have been observed to migrate between the estuary and upriver to productive off channel areas. Juvenile chinook, juvenile steelhead, and sub adult bull trout depend on the productive slow-velocity margin, side-channel, and off channel habitats for feeding, and as refuge habitat from the high velocities found in the main stem river. Adult bull trout actively forage in main stem margin and side channel habitats of the main stem Skagit. The primary strategy for habitat restoration in the middle and lower Skagit is to re-establish hydraulic connectivity to disconnected side-channel habitats, to re-establish access to off-channel habitats, and to restore the habitat quality of main stem margin habitats. The latter habitats have been widely impacted by diking and bank armoring in the lower and middle Skagit.

Proposed projects seek to:

- Restore historic riverine wetland to increase the availability of floodplain rearing, foraging, and refuge habitat;
- Set back major sections of levees to re-establish floodplain habitats;
- Restore riparian corridors and floodplain corridors by planting native vegetation and removing noxious weeds;
- Restore hydraulic connectivity to artificially isolated side-channels and off-channel areas.
- Remove fish barriers to tributaries and off-channel floodplain habitats;
- Remove bank hardening and restore natural hydraulic process that form and sustain side channels;
- Improve habitat complexity within islanded (multiple channels) areas of the river;
- Reduce sediment and temperature impacts to major tributaries (e.g., Finney Creek and Day Creek) through improved forest practices and road stabilization projects, re-establishing native vegetation, a restoring natural channel processes;
- Protect and restore alluvial fans.

Partner organizations involved in restoration projects in the lower and middle Skagit include the Skagit River System Cooperative, Upper Skagit Tribe, Skagit Fisheries Enhancement Group, U.S. Forest Service, Skagit County, Washington Dept. of Fish and Wildlife, the Skagit Watershed Council and Seattle City Light.

The lower and middle Skagit is a key focus area of protection projects including conservation land purchases and easements. Protection will remain a central component to the three-year recovery plan in this area of the watershed. The area of the watershed is more impacted by land-use disturbance, channel modifications, and hydrological modifications than the sub basins in the upper parts of the watershed. Consequently, most of the protection projects in the lower and middle Skagit will become restoration projects over time. Partner organization active in conservation land acquisitions and easements in the lower

and middle Skagit include the Skagit Land Trust, U.S. Forest Service, The Nature Conservancy, and the Washington Dept. of Fish and Wildlife.

The capital cost in lower and middle Skagit is the highest of the Skagit watershed sub basins. This area of the Skagit possess the greatest amount of main stem habitat area in the watershed (i.e., over 60 river miles), and has been one of the most impacted areas of the Skagit by human disturbance. The lower and middle provides critical spawning habitat to fall chinook, rearing habitat to most life history forms of chinook, steelhead spawning and rearing habitat, and serves as migration and foraging habitat for fluvial and anadromous trout.

### Upper Skagit Sub basin

The upper Skagit Sub basin includes a 26-mile section of the main stem Skagit River that provides supports the greatest number of native chinook salmon, chum salmon, and pink salmon spawners in the Puget Sound. This sub basin possesses some of the most important bull trout spawning streams in the Skagit watershed, including Bacon Creek and Illabot Creek. Much of the upper sub basin is in excellent condition due to protections provided by wilderness designations in North Cascades National Park and National Forest lands. Habitat protection has been also been a focus along the main stem section of the river adjacent land holdings. The partner organizations involved in protection projects in the upper Skagit sub basin include Seattle City Light, The Nature Conservancy, and the U.S. Forest Service. Protection projects remain a key component to the three-year recovery plan.

High quality spawning habitat is abundant for chinook salmon and steelhead along the 26 main stem river miles in the upper Skagit Sub basin. This section of the river supports the upper Skagit summer run of chinook salmon, which is the most abundant and healthiest population of chinook in the watershed. This area of the river now supports over 80 percent of the total chinook spawning in the Skagit watershed. Although spawning habitat is abundant for chinook and steelhead, rearing habitat for these species is considered to be limiting because of the relative scarcity of low-velocity main stem margin, side-channel, and off-channel habitat. Restoration projects in this area of the watershed focus on improving juvenile salmon and steelhead rearing areas. Specific restoration objectives in the upper Skagit Sub basin include:

- Restoring hydraulic connectivity to side-channel and off-channel habitats;
- Constructing new ground-water fed channels to compensate for reductions in the natural formation of these channels by flood-control and hydroelectric operations;
- Restoring low-velocity rearing areas along the main stem margin by removal of bank armoring;
- Maintaining a flow-management program developed by SCL and coordinated with the Tribes and federal and state fish management agencies

to minimize flow impacts of the Skagit Hydroelectric Project on spawning and rearing fish.

Partner organizations involved in restoration projects include the Skagit River System Cooperative, Upper Skagit Tribe, Seattle City Light, U.S. Forest Service, and Washington Dept. of Fish and Wildlife.

#### Sauk River Sub basin

The Sauk River sub basin includes two independent chinook salmon populations: lower Sauk summer chinook and upper Sauk spring chinook. The Sauk River has been a key area for protection projects in the Skagit watershed. Protection efforts will continue to focus on the spawning areas for summer chinook and diverse rearing habitat for spring chinook located on the main stem Sauk between the confluence of the Suiattle River and the town of Darrington. This sub basin also provides important spawning and rearing habitat to steelhead and bull trout. Partner organizations involved in habitat protection projects in this sub basin include The Nature Conservancy, Seattle City Light, and U.S. Forest Service. The restoration projects in the three-year plan are sediment reduction projects. High sediment loads are a major threat to salmonid populations and habitat quality in the Sauk sub basin.

#### Suiattle River Sub basin

The Suiattle River possesses one of the three independent spring chinook populations in the Skagit watershed. This sub basin provides is extensively used as spawning and rearing habitat by bull trout and steelhead. Glaciers in the upper watershed result in high levels of flow variability as well as high sediment loads to this system. Sediment resulting from forest land-management impacts combined with major flooding events in recent year represents the major threat to chinook, bull trout, and steelhead populations in this sub basin. For this reason, the restoration projects included in the three-year plan focus of sediment reduction. Partner organizations that have been involved in protection and restoration actions in this sub basin include the U.S. Forest Service, Skagit River System Cooperative, Sauk-Suiattle River Tribe, The Nature Conservancy, and Seattle City Light.

#### Cascade River Sub basin

The Cascade River Sub basin is the least impacted of the major sub basins in the Skagit River due to long-term protections afforded by wilderness designations by the U.S. Forest Service in the headwater areas. This sub basin supports one of the three independent spring chinook salmon populations in the Skagit, and is extensively used for spawning and juvenile rearing by bull trout and steelhead. Resident forms of bull trout are likely present in this sub basin. Proposed recovery actions for the three-year plan include a major protection project (1000+ acres) involving the partnerships of the U.S. Fish and Wildlife Service, Washington Dept. of Natural Resources, Seattle City Light, and The Nature Conservancy. The U.S. Forest Service has been the leader for restoration efforts

in this watershed, and will sponsor sediment control projects proposed in the three-year plan.

### **Monitoring**

Monitoring forms an essential component of the three-year recovery plan, and will provide information critical to the adaptive management process and guiding future recovery actions. Monitoring efforts will continue to represent "vital pulse measurements" for chinook salmon, bull trout, and steelhead populations in the Skagit. The Skagit monitoring program include continued spawning surveys for chinook salmon, bull trout, and steelhead trout, smolt outmigration monitoring by screw and incline traps for all three species, and beach-seine sampling of juveniles and adults in the estuary and marine nearshore areas of the watershed. In terms of cost, the most substantive monitoring effort is the indicator stock programs for fall, summer, and spring chinook. Indicator stock programs are critical for monitoring the survival and managing the harvest of chinook in ocean waters. Monitoring efforts of coded-wire tagged chinook in most Puget Sound watersheds involve hatchery fish, but must rely on wild fish tagging in the Skagit due to the focus on wild fish production in this watershed.

### **Research (Skagit Watershed)**

The Skagit Watershed is home to some of the pre-eminent estuary researchers of the Pacific Northwest. Research conducted in the Skagit has dictated the direction of chinook and bull trout recovery both locally and region wide. Continued research in the Skagit is crucial to our understanding of what it will take to recover the species and to adapt our efforts to ensure their effectiveness. The proposed research in the three-year plan will help fill major gaps in our understanding of the life-history, migration behavior, habitat use, and spatial survival patterns of chinook salmon, bull trout, and steelhead among the ecoregions of the Skagit identified in this plan.

Project Information and How it relates to the Recovery Plan												Project Planning									
Project Type	Plan Category	Project Name	Brief Project Description	Priority tier of project	Limiting Factors	Document Ref for limiting factors	HWS Habitat Type	HWS Activity Type	Project Performance	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status	2009 Year 1 Scope	2009 Year 1 Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated Cost	2012 Activity to be funded	2012 Estimated Cost	Likely End Date
<b>CAPITAL PROJECTS</b>																					
<b>Habitat Capital Projects</b>																					
<b>Nearshore</b>																					
Restoration		Turners Bay	Restore connectivity to pocket estuary by removing road fill		Loss of habitat	Skagit Chinook Recovery Plan	Nearshore embayments	Estuary or nearshore	8.7 acres	Chinook	Bull Trout		Permitting		Construction	\$871,150	Construction				2011
Restoration		Similk Bay	Restore intertidal pocket estuary by replacing road fill w/bridge & constructing channels		Loss of habitat	Skagit Chinook Recovery Plan	Nearshore (Beaches), Nearshore (Embayments)	Estuary or nearshore	23.6 acres	Chinook		Conceptual					Feasibility	\$75,000			
Acquisition for Protection		Kiket Island Conservaton Acquisition	Protection of 2+ miles of shoreline, 96 ac upland peninsula island, 3.4 ac pocket estuary		Loss of habitat	Skagit Chinook Recovery Plan	Nearshore (Beaches), Nearshore (Embayments), Nearshore (Rocky Coast)	Nearshore or Estuarine Areas Protected	44.9 acres	Chinook	Bull Trout			\$0	Acquisition	\$15,060,000					2010
		TOTAL NEARSHORE CP														\$871,150		\$75,000			
<b>Estuary / Tidal Delta</b>																					
Restoration		Rawlins	<i>Removed from 3 yr list - no immediate proposals for implementation of alternatives from the feasibility work</i>		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	28 acres +	Chinook											
Restoration		Wiley Slough Estuary Restoration	Restoration of 160 ac tidal marsh		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	160.6 acres	Chinook			Construction		Project Shortfall	\$800,000	Monitoring	\$75,000			2012
Restoration		McGlenn Island Causeway	Improve hydraulic connection between the N. Fork of the Skagit and Swinomish Channel to improve access by juveniles to estuarine rearing habitat in Padilla Bay		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore		Chinook			Feasibility/90%Design		Design/Permitting		Construction	\$1,200,000			2012
Restoration		Fisher Slough	Restores 50-80 acres of farmland within the riverine tidal zone to channel, scrub-shrub, forested wetland, and tributary junction habitats		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	68 acres	Chinook	Coho				Construction	\$2,800,000					2011
Restoration		Swinomish Channel Restoration (Smokhouse Floodplain)	Completion of Fornsby Ck SRTs to provide fish access and dredge spoil removal from intertidal at several locations		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	50 acres	Chinook	Chum		Design/Planning		Construction	\$0	Monitoring	\$0	Monitoring		2012
Acquisition for Restoration		South Fork Off Channel	Restore forest vegetation and enhance salmonid access to a ~40 acre riverine tidal wetland		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	40 acres	Chinook	Chum				Design/Permitting	\$20,000	Construction	\$175,000			2011
Restoration		Telegraph Slough Reconnection	Re-establish connectivity between Padilla Bay and Swinomish channel via Telegraph Slough		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	80 acres	Chinook					Feasibility	\$125,000	Design	\$125,000			2015
Restoration		Dry Slough Tidegate (Goose Reserve)	Restoration of tidal marsh on 264 acres of WDFW property currently managed as a snow goose reserve		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore		Chinook	Chum	Feasibility proposed	Feasibility/30%Design	\$175,000	Design	\$125,000	Construction	\$500,000			2011
Restoration		South Fork Pole Yard	Reconnection of tidally influenced floodplain on S. Fork Skagit		Loss of habitat	Skagit Chinook Recovery Plan	Estuary river delta	Estuary or nearshore	40 acres	Chinook	Chum			\$175,000	Design/Planning	\$100,000	Acquisition/Permitting	\$600,000			2011
		TOTAL ESTUARY/TIDAL CP														\$3,970,000		\$2,675,000			
<b>Lower / Middle Skagit (Burlington to Sauk River confluence)</b>																					
Restoration		Cascade Trail Relocation	Reconnection of floodplain by relocating old r grade now a public trail		1	Skagit Chinook Recovery Plan	Instream	Instream	30 acres	Chinook	Steelhead				Acquisition/Design	\$325,000	Construction	\$300,000			2012
Restoration		Cockreham Island	<i>Removed from 3 yr list - no immediate proposals for restoration in the queue. Some acquisition and scoping work on-going in other projects.</i>		1	Skagit Chinook Recovery Plan	Instream	Floodplain Restoration	1334 acres, 5 km sloughs	Chinook	Coho										
Acquisition for Protection/Restoration		Snell Acquisition	Acquisition of 81 acres of floodway property along 3700 feet of the Skagit River on Cockreham Is.			Skagit Chinook Recovery Plan															
Restoration		Cottonwood Island	Reconnection of relict side channel for rearing habitat		1	Skagit Chinook Recovery Plan	Instream	Instream		Chinook	Coho				Design/Permitting	\$190,000	Construction	\$2,800,000			2012
Restoration		Day Creek	<i>Removed from 3 yr list - this was a placeholder for a number of restoration action recommended in feasibility study.</i>		1	Skagit Chinook Recovery Plan	Instream	Instream		Chinook	Steelhead		Design/Construction	\$213,000			Design/Construction	\$475,000			2012
Restoration		Day Creek Habitat Restoration	Design and installation of LWD jams in chinook tributary		1	Skagit Chinook Recovery Plan	Instream	Instream		Chinook					Design/Construction						2010
Restoration		Debays Slough Feasibility & Design	<i>Removed from 3 yr list - no plans for implementation in next 3 yrs according to landowner rep.</i>		1	Skagit Chinook Recovery Plan	Instream	Instream		Chinook	Coho		Feasibility	\$125,000	Design/Planning	\$75,000	Construction	\$400,000			2014
Restoration		Finney Creek Supplemental LWD treatment	Design and installation of LWD jams in chinook tributary		5	Skagit Chinook Recovery Plan	Instream	Instream		Chinook	Steelhead				Design/Planning	\$45,000	Construction	\$200,000			2013
Restoration		Finney Riparian	Conifer plantings in hardwood dominated riparian in important chinook tributary		3	Skagit Chinook Recovery Plan	Riparian	Riparian		Chinook	Steelhead				Site Planning	\$35,000	Construction	\$140,000			2012
Restoration		Gilligan Floodplain	Restore function to 170 acres of side channel and floodplain habitat in the Skagit R downstream from Gilligan Creek by removing 170 linear meters of a flood control dike and riprap & replant		1	Skagit Chinook Recovery Plan	Instream	Instream	170 acres	Chinook	Coho				Construction Design/Permitting	\$100,000	Construction	\$400,000			2014
Restoration		Hamilton PDA	<i>Removed from 3 yr list - no immediate plans for implementation of this large-scale floodplain restoration associated with relocating the town of Hamilton out of the floodplain.</i>		1	Skagit Chinook Recovery Plan	Instream	Floodplain Restoration		Chinook	Coho		Feasibility/Design								
Restoration		Hansen Creek Alluvial Fan	Restore alluvial fan and wetland function to dredged and diked tributary		1	Skagit Chinook Recovery Plan	Instream	Floodplain Restoration	145 acres	Chinook	Coho		Construction Design	\$120,000	Permitting		Construction	\$3,638,000			2012
Acquisition for Protection		Middle Skagit Acquisitions	<i>Duplicate placeholder project for floodplain protection acquisitions in different reaches of the Skagit and major river tributaries all covered in retitled "Skagit Floodplain Habitat Acquisition Phase II"</i>			Skagit Chinook Recovery Plan	Instream	Land Protected/Aquired/Leased		Chinook	Chum		Acquisitions		Acquisitions	\$300,000	Acquisitions	\$300,000			2012
Restoration		Middle Skagit Floodplain Restoration			5	Skagit Chinook Recovery Plan	Instream	Floodplain Restoration		Chinook	Coho				Construction Design/Permitting	\$65,000	Construction Design/Permitting	\$65,000			
Restoration		Skivou Slough			1	Skagit Chinook Recovery Plan	Instream	Instream		Chinook	Coho				Design/Permitting	\$75,000	Construction	\$100,000			2010

