

WRIA 2 (San Juan County) 3-Year Implementation Matrix

Goals and Objectives

The key 10-year goal of WRIA 2 (San Juan County) is to identify critical habitats and ecosystem interactions in order to develop protection and restoration actions that will be most effective in moving populations of Puget Sound Chinook towards recovery. Initially, summarizing and synthesis of information concerning key issues needs to be compiled. We identify these issues as gaps in knowledge and as part of the technical assistance program. A series of white papers and map books are proposed for issues such as climate change, historic conditions, pollution sources, oceanography, and input in existing habitat plans, permitting and management. A dedicated position of Analyst needs to be funded to achieve this first step in protecting WRIA 2 habitat for Chinook salmon.

The issues facing WRIA 2 are those of protecting quality habitat and restoring modified or degraded habitat. Much of the shoreline is high quality but pressure from development could change that. Once critical habitats have been identified for salmon and forage fish, protection of these habitats will be a priority. Research projects that will quantify and qualify key habitats include the association of juvenile Chinook in time and place for a variety of available habitats. Until 2004 it was not clear that juvenile Chinook occupied the near shore environment of high-energy beaches in San Juan County. Additional habitats and sites need investigating to discern the pattern of habitats that these fish utilize. Juvenile forage fish, a prey for juvenile Chinook have also been sampled in the beach seines. As we sample in different habitats, information for key species in the food web of Chinook salmon will also be acquired. Population structure, species interactions, ocean conditions, habitat quality and quantity are all issues addressed in the proposed research projects

WRIA 2 is seasonally affected by human population increases, both from summer residents and visitors. Two approaches to achieving our 10-year goal must be made: residents and businesses need information and encouragement to develop their property in a “salmon friendly” manner and visitors need information on how their actions will benefit the ecosystem in San Juan County. Educational outreach includes workshops and classroom experiences for residents and information exchange at marinas and ferry terminals for visitors.

Fresh water quantity issues exist due to diversions from historic watersheds, changing the flow into streams that historically had salmon runs. Fish barriers from roads, bridges and culverts exist and are a part of the Capital projects. Fresh water quality is affected by failing septic systems, wastewater effluent and contaminants. Marine waters are impacted by point and non-point pollution at fuel docks and marinas and from potential oil spills.

In the next 3 years, we plan to ascertain the effectiveness of existing regulations and the development of a protection package that includes regulatory, voluntary, incentive and education. This work program provides an estimate of funding needed to move Chinook recovery forward in WRIA 2 under the Salmon Recovery Plan. This matrix provides a list of projects to undertake within the next 3 years. Some projects are underway and currently funded;

the majority is in need of funding. Projects were ranked on a scale of one to three. A ranking of one indicates the project is underway or is of immediate need. A ranking of a two was assigned to projects that rely on information provided by projects with a ranking of one. A ranking of three was assigned to projects that we are considering but may not have an immediate or direct affect on Chinook salmon recovery.

The majority of the projects are considered to be critical steps in targeting protection and research efforts in WRIA 2. This list totals \$3,560,000 and is a rough estimate as many of the capital projects have not been evaluated as to the scope of the restoration. We have not included costs for acquisition or easements to protect critical habitats as those costs are currently imbedded within the San Juan County Land Bank budget and fundraising by the San Juan Preservation Trust.

Capacity

Goal: Secure basic level funding for a full-time Lead Entity Coordinator to pursue and coordinate salmon and forage fish related funding opportunities. A part-time Analyst is also sought to synthesize existing information and provide it to regional managers and researchers in order to have a coordinated effort for restoration and protection of salmon and forage fish habitats.

Strategy: There are currently 20 governmental and non-governmental partners involved in conservation, education, research, planning and managing the marine resources in San Juan County. A clearing-house of ideas, information and action needs to be established. A web site, the Lead Entity Coordinator, and an Analyst are necessary to promote collaboration, eliminate redundancy and focus on priorities among the many partner organizations.

Results: A focused and efficient restoration and protection program in WRIA 2. We are currently lacking fundamental information needed to effectively plan habitat and species protection. The Analyst, Lead Entity and Project Manger for the Ecosystem Based Initiative will synthesize information and develop white papers on issues of concern in WRIA 2.

Magnitude/Sequence: There is an immediate need to fund the Lead Entity Coordinator position at full time along with hiring an Analyst and a Project Manager for the Ecosystem Based Initiative. There are no requests by partner organizations for additional funding to participate in Salmon Technical Advisory Group meetings or advisory meetings. Information synthesis and outreach are the principal needs at this time.

Funding Request: Approximately \$495,000 over a 3 year period.

Habitat Projects:

Synthesis - Gaps

Goal: Synthesis of existing information directly applicable to the managing, protection and research needs of WRIA 2. This information is critical in furthering the protection and restoration of salmon and forage fish populations and habitat. The focus will be on creating white papers from existing information and providing it to managers and educators. Preliminary identification of critical habitats and high-risk areas can be identified leading to further research and funding priorities. Some information will be sufficient to provide managers with action items such as a response plan for most-likely areas to be affected by an oil spill or a position paper regarding the placement of Atlantic salmon net pens in WRIA 2.

Strategy: An Analyst funded under Capacity will perform most of this work. The information will be disseminated to managers and educators directly and available on a web site for all interested in accessing this information. These are high priority summaries necessary for prioritizing research, protection and restoration activities.

Results: The timely access to this information will bring WRIA 2 closer to specific restoration and protection actions within a short period of time.

Magnitude/Sequence: Five evaluations are necessary to inform any currently outlined protection or restoration activity. Other work identified as Gaps are necessary to further refine habitat issues from water quality, habitat availability and to target easements.

Funding Request: Approximately \$25,000 over a 3 year period.

Key Habitats- Protection/Restoration

Goal: All of our protection and restoration targets would benefit from a countywide synthesis of available information in order to prioritize projects. Some basic research has been completed for forage fish spawning habitat that can be used to target beaches for removal of bulkheads and creosote logs. Protection and restoration projects outlined in the matrix will proceed as rapidly as basic information can be acquired and locations prioritized for action.

Strategy: The San Juan County Land Bank (funded by 1% of real estate property sales taxes) and the San Juan Preservation Trust (501c3 private donations) work together to acquire property of ecological significance. No specific funds are designated in the matrix for property acquisition or easements. Synthesis of information from the Technical Assistance and Gaps papers would guide acquisitions of important salmon and forage fish habitats. There is a list of sites to target but they are not prioritized due to lack of site-specific knowledge. Investigative work is funded for Thatcher Bay that will lead to restoration action. Preliminary surveys have isolated Deer Harbor, Victorian Valley, Crow Valley, Cascade Creek and Buck Bay as sites on Orcas where culvert or bridge replacement would open up habitat for salmonids. Estuary restoration at Fossil Bay (Sucia), Neck Point (Shaw) and Shoal Bay (Lopez) would protect or

reclaim nearshore habitat. Second and third tiered projects would increase habitat quality in general and could benefit pelagic juvenile salmon and forage fish populations.

Results: Protection of high-quality nearshore habitats for juvenile and adult Chinook salmon, sand lance, herring and surf smelt. Restoration of historic nearshore habitats.

Magnitude/Sequence: San Juan County has over 400 miles of shoreline to evaluate in light of salmon and forage fish habitat.

Funding Request: Approximately \$1,526,000 over a 3 year period for a combination of Capital and Non-Capital projects.

Science

The ten-year goal is to understand the importance of near shore habitats to Chinook populations. There are no documented natal streams in WRIA 2; however, juvenile Chinook are found both at near shore beaches and in open water. An inventory of all habitats used by Chinook and the timing and extent of this use needs to be investigated. Chinook from the Nooksak, Samish, Skagit and Canadian rivers could be populating WRIA 2. Stock identification would aid in identifying and prioritizing sites used by Puget Sound Chinook. Forage fish habitats, such as eelgrass and beaches in San Juan County are experiencing declines in quality and quantity. Basic research into the reasons for declines and plans for restoration are necessary before the importance of near shore habitats can be evaluated, protected or restored.

Goal: Basic gaps in habitat use of pocket estuaries, macro-algae, kelp, high and low energy beaches, and eelgrass exist. Assessment of these habitats for salmon capacity will be addressed using a variety of sampling methods. Food webs, resident times and population structure will be investigated to better understand the relationship of Chinook to the habitats and ecosystems in WRIA 2.

Strategy: Best available science will be used to manage and steward the habitats and ecosystems in WRIA 2. Interactions of wild Chinook population with hatchery and mari-culture fish will be investigated. Water quality and quantity needs to be measured, monitored and restored.

Results: These projects are aimed at defining and quantifying recovery goals.

Magnitude/Sequence: Some basic assessment research has been funded; near shore salmon presence near stream mouths and high-energy beaches, eelgrass habitat assessment, assessment of kelp bed extent, and limited stream habitat surveys. This work needs to continue beyond the two years of available data because of the affects of interannual variability and climate change. Other projects are proposed that will investigate additional habitats such as open water, pocket estuary, drift kelp and salt marsh.

Funding Request: Approximately \$1,630,000 over a 3 year period.

Technical Assistance and Education

Goal: Provide guidance to private citizens and governments that will lead to conservation and preservation of Chinook salmon, forage fish and their critical habitats. Technical assistance is aimed at managers to keep them knowledgeable about research findings and habitat issues. Public education is aimed at all age groups of county residents. School children will learn the importance of marine habitats and there will be workshops for landowners to acquaint them with “best management practices” of their property for salmon and forage fish. The “Salmon in the Schools” program is aimed at 4th grade students where they spend a semester learning about Chinook salmon and rearing juveniles for release.

Strategy: The Lead Entity and Analyst will interact with county managers to keep them abreast of new information. A web site will also be developed for anyone with questions regarding the stewardship, conservation and preservation of habitats that are critical to salmon and forage fish. Educational outreach has several vectors: scientists in the classroom, salmon in the schools program, adult education by the San Juan Nature Institute and lecture series at Camp Orkila. The Beach Watchers program began in 2006 and will focus on ecosystem awareness for visitors to San Juan County.

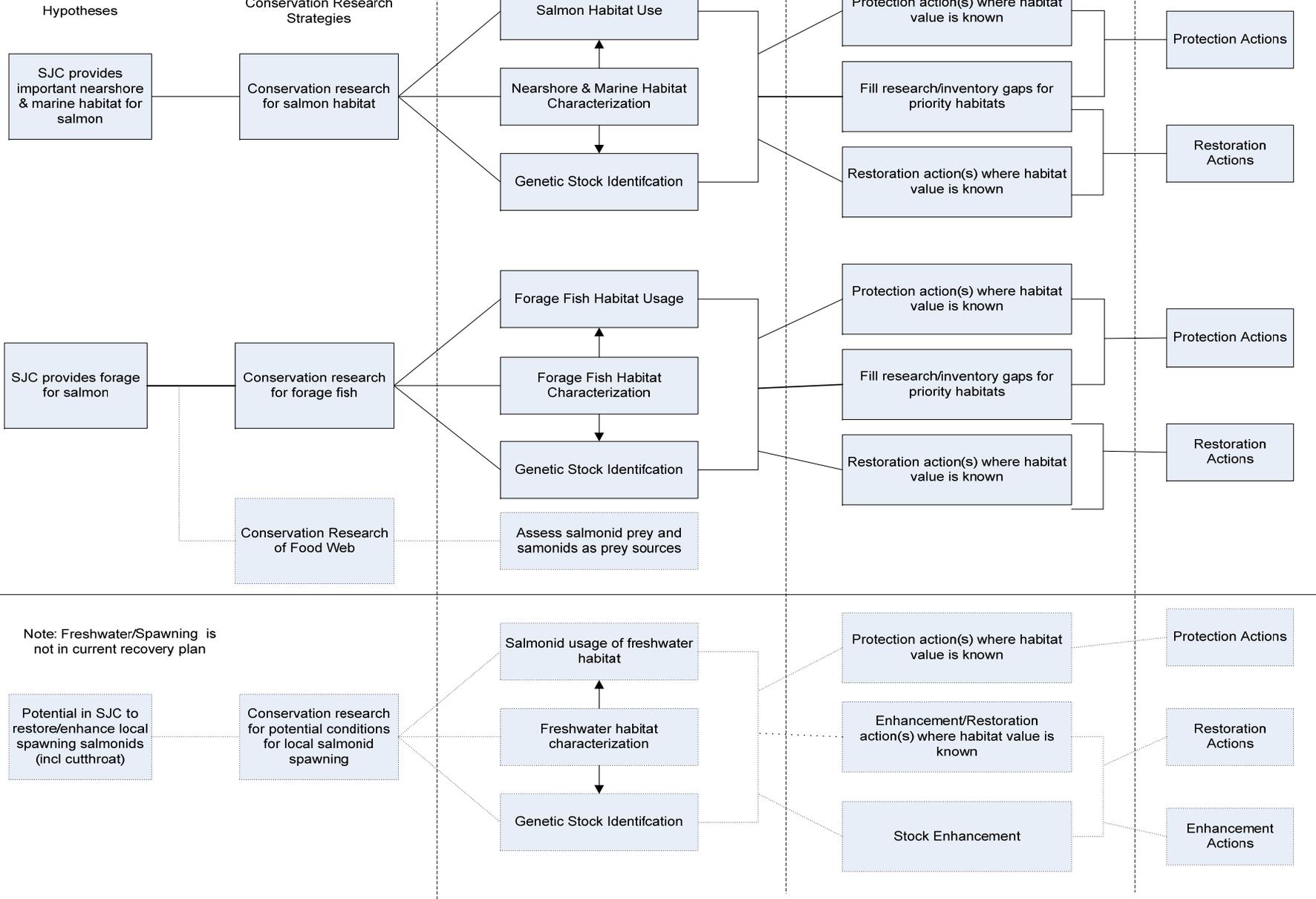
Results: Increase awareness of managers and citizens of proactive methods they can take as part of the San Juan County Marine Stewardship Area. An understanding of the links between watersheds, land use, and nearshore habitats will be emphasized. Tools will be provided for landowners to better manage their property for enhancing salmon and forage fish habitat.

Magnitude/Sequence: Educational programs are currently established in WRIA 2. They will be maintained and expanded in the next period. Technical assistance needs to be developed (under Capacity) and will require a position to be created to fill this need.

Funding Request: Approximately \$19,000 over a 3 year period.

A conceptual model of the local salmon recovery strategy for San Juan County follows. The model was developed as a mechanism to provide a brief overview of the local salmon recovery strategy for WRIA 2.

San Juan County Salmon Recovery Plan Conceptual Model



WRIA 2 / San Juan County 3 Year Salmon Recovery Work Plan

Objective Action	non-capital	Activity	Rank	Project Name	Results	Potential Sponsor (lead)	Primary Ecosystem Process	Primary Habitat	Approx. total cost 2007-09
Protection/Restoration of known KEY Habitats/Processes									
Threatened salmon habitat	C	Protection (Salmon+Forage Fish)	1	Nearshore Acquisitions / Easements	habitat conservation through ownership	Land Bank/ Preservation Trust	marine shoreline	nearshore	unknown
Degraded forage fish habitat	C	Restoration forage fish beaches	1	Bulkheads/armoring of shore	future permitting to encourage soft shore protection	SJC Public Works/FSJ/landowners	productivity	intertidal	\$20,000
Degraded forage fish habitat	C	Restoration of nearshore habitat	1	Deer Harbor derelict cement pool removal	removal of concrete pool-restore habitat	LB	productivity	intertidal	\$50,000
Degraded forage fish habitat	C	Restoration forage fish beaches	1	Bulkheads/armoring of shore (~20 sites)	remove/reduce negative impacts on Forage fish spawning habitat	SJC Public Works/FSJ/landowners	productivity	intertidal	\$200,000
Degraded forage fish habitat	C	Restoration	1	Thatcher Bay Restoration	Restore Thatcher Bay nearshore habitat for forage fish and salmonids	SFEG	productivity	nearshore/intertidal	\$110,000
Degraded forage fish habitat	C	Restoration of salmon and forage fish habitat	1	Creosote log/piling removal (15 sites)	Water Quality and Restoration of forage fish spawning beaches	WA DNR / SJC-MRC/Salmon Affect	productivity	beach/intertidal/subtidal	\$100,000
Degraded forage fish habitat	C	Restoration forage fish beaches	1	Riparian Restoration of forage fish beaches (vegetation)	Improve quality of spawning beaches	FSJ, Ducks unlimited	productivity	riparian	\$10,000
Degraded salmon habitat	C	Restoration salmon access	1	Victorian and Crow Valleys, Cascade Creek, Buck Bay)	removal of fish barriers	SJC Public works	connectivity	nearshore	\$500,000
Degraded salmon/forage fish habitat	C	Restoration of salmon and forage fish habitat	1	Lagoon/estuary restoration (Shoal Bay, Fossil Bay, Neck Pt)	restore connectivity, increase nearshore habitat for juvenile salmon and forage fish	conservation district/KWIAHT/FSJ	productivity	nearshore/lagoon	\$125,000
Threatened salmon/forage fish habitat	NC	Protection (Salmon+Forage Fish)	1	SJ Co habitat protection	blueprint	PT, LB	marine shoreline	shoreline	\$115,000
Threatened salmon/forage fish habitat	NC	water quality	1	Friday Harbor wastewater	improved water quality for nearshore system	Town of Friday Harbor	productivity	surface water	imbedded
Threatened salmon/forage fish habitat	NC	habitat	1	Beach Clean-up of debris	increase spawning habitat	FSJ	productivity	beach	\$5,000
Threatened salmon/forage fish habitat	NC	Restoration of salmon and forage fish habitat	1	Derelict Gear Removal	Restore benthic habitat for eelgrass; eliminate derelict gear	NW Straits Commission /SJC-MRC	productivity	photic zone & marine	\$10,000
Threatened salmon/forage fish habitat	NC	Salmon Capacity	1	Assessment and protection of kelp beds	Habitat importance to adult salmon, protection through regulatory options	FSJ/DNR	Habitat	bull kelp	imbedded
Threatened salmon/forage fish habitat	NC	WQ monitoring	2	Nearshore/Marine and fresh water (storm water) quality monitoring	improved water quality	EPA/Conservation District/UW/KWIAHT	productivity	marine/nearshore	\$150,000
Threatened salmon/forage fish habitat	NC	Protection analysis	2	Cypress Island Fish Farm	Evaluate if farmed Atlantic salmon are escaping and are a threat to Pacific salmon	NMFS/SJC	productivity/competition	nearshore/ subtidal	\$50,000
Threatened salmon/forage fish habitat	NC	Protection of salmon and forage fish habitat	2	Spartina Control of the few invasive occurrences	Avoid major habitat problems	?	productivity	intertidal	\$11,000
Threatened forage fish habitat	NC	Assessment	2	Exotic Species	monitor/map exotic species on priority habitats	FHL/FSJ/Beach Watchers	productivity	all	\$10,000
FW habitat Characterization	NC	stream flow monitoring	3	San Juan County Stream flow monitoring FW quantity	maintain flow via water rights	CD/FHL/KWIAHT	habitat quality/quantity	fresh surface water	\$60,000
TOTAL COSTS									\$1,526,000

Synthesis works and compilation of identified GAPS

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GAP - Salmon Habitat	NC	Historical Use- interviews	1	salmon pathways	relationship of adult salmon migration to habitats (kelp beds)	NWSC/ SJ-C-MRC	habitat usage	pelagic	\$20,000
GAP-Threatened salmon/forage fish habitat	NC	Protection (Salmon+Forage Fish)	1	Evaluate IOSA data	responsive measures based on spill patterns	Oil Spill Assoc./FSJ	productivity	marine	imbedded
GAP- Salmon Habitat Use	NC	Salmon Capacity	1	Climate/ocean/species interactions	WRIA specific climate model-species response	National Wildlife Fed/UW/NOAA	Oceanography	variety	imbedded
GAP - salmon/forage fish habitat	NC	Protection (Salmon+Forage Fish)	1	Evaluate incidence & types of oil spills	Identify key locations at risk		productivity	marine	imbedded
GAP- salmon/forage fish habitats	NC	Protection analysis	1	mariculture (net pens)	Position paper for SJ County		productivity	nearshore/ subtidal	imbedded
GAP - salmon /forage fish habitats	NC	Protection (Salmon+Forage Fish)	2	Review/ standardize monitoring methods	white paper on refined methodologies		productivity	all	imbedded
GAP - water quality	NC	Restore water quality	2	Marina point/no point source pollution	White paper on issues		productivity/ contaminants	food web	imbedded
GAP - salmon/forage fish habitat	NC	water quality	2	Sanitary (Septics) Survey's)	repair failing septic	San Juan County Health	productivity	marine/nearshore	imbedded
GAP- Salmon Habitat Use	NC	Habitat Characteristic/Process	2	Hydrodynamics (currents)	larval fish transport/retention mechanisms	SRSC	Oceanography	variety	imbedded
GAP- Salmon Habitat Use	NC	Salmon Capacity	3	sea level rise	consequences to habitat	National Wildlife Fed/UW/USGS	Oceanography	nearshore/ intertidal	imbedded
GAP-Threatened forage fish habitat	NC	Restoration	3	Storm water Structure Inspections	Address impacts of erosion, pollution, nearshore habitat impacts, water quality	SJC Public works	productivity	variety	imbedded
GAP - Fresh water habitat	NC	Characterize	3	Data compilation of riparian/tidal marsh habitats	white paper and maps of riparian habitat and tidal marshes		habitat quality/quantity	riparian/tidal marsh	\$5,000
GAP - Fresh water habitat	NC	Characterize	3	Watershed Conservation Easements	Protect salmonid habitat with land conservancy	SJ Preservation Trust/Land Bank	watershed	stream/riparian	\$0
TOTAL COSTS									\$25,000
Research									
Salmon Habitat Use	NC	Salmon/Forage fish capacity	1	Geomorphic Assessment - Nearshore Habitat and Fish Use Quantification	Model shoreline, "drift cells"	Skagit River System Cooperative/ FSJ	sub-estuaries	all	\$50,000
Salmon Habitat Use	NC	Salmon Capacity	1	Nearshore/Marine Juvenile Salmonid Distribution	beach seine, Map and inform regulatory agencies for permitting/protect/restore sites	Beach Watchers NOAA/Samish	high energy beaches	beaches, pocket estuaries, eelgrass,	\$210,000
Salmon Habitat Use	NC	Salmon Capacity	1	juvenile salmonid use salt marsh, stream mouths, pocket estuaries	sample, Map and Inform regulatory agency for permitting/protect/restore sites	ACE/KWIAHT	low energy habitat	stream mouths	\$150,000
Salmon Habitat Use	NC	Salmon Capacity	1	juvenile salmon use open water	sample with tow net, Map and Inform regulatory agency for protect sites	ACE/Samish/NMFS	low energy habitat	stream mouths	\$30,000
Salmon Habitat Use	NC	Salmon Capacity	1	salmon use of drift habitat, kelp canopy and understory	sample habitat, Map and document use	FSJ	kelp habitat	kelp	\$150,000
Threatened forage fish habitat	NC	Genetic Stock ID	1	forage fish population structure	Protection of discrete population segments	NMFS genetics lab	productivity	variety	\$30,000
hatchery management	NC	Salmon Capacity	1	Ecological interactions of hatchery and wild salmon in marine habitats	may affect size, timing, quantity of releases at hatcheries	Tribes, WDFW, NOAA	food web	all	\$30,000
Salmon/Forage fish habitat use	NC	Assessment	1	Assessment and protection of kelp beds	Historic and current distribution	FSJ/DNR	habitat usage	bull kelp	\$115,000
Salmon/Forage fish habitat use	NC	Assessment	1	identification of juvenile salmon habitat	timing and residency in preferred habitats- a tagging study	Samish	habitat usage	nearshore	\$150,000

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Degraded salmon/forage fish habitat	NC	Restoration	1	Eelgrass Restoration Projects	eelgrass habitat assessment	FSJ/UW	productivity/spawning	subtidal	\$50,000
Degraded salmon/forage fish habitat	NC	Assessment/ Restoration	1	Thatcher Bay old mill site	feasibility plan for Thatcher Bay/restoration	SFEG/UW	productivity	nearshore/ intertidal	\$115,000
Fresh water inputs into Sound	NC	watershed capacity	1	Restore fresh water inputs-quantity	Map of fresh water system/ reestablish historic watershed flow/ address diversions	SJC / KWIAHT	habitat FW quantity	watershed	\$100,000
Salmon Habitat Use	NC	Salmon Capacity	2	Trophic Interactions - nearshore habitats	analyze benthic/pelagic resource use by juv.salmonids	UW/WWU	food web	variety	\$200,000
Hatchery Management	NC	Salmon Capacity	2	Glenwood Springs Chinook hatchery	pathways they use after release/interactions with wild Chinook	LLTK, Tribes, WDFW	productivity	variety	\$30,000
Genetic Stock ID	NC	Salmon Capacity	2	Discrete Population Segments - Salmon	ID priority habitats for ESA listed species	genetics lab	habitat usage	beaches, pocket estuaries, eelgrass,	\$30,000
Fresh water habitat	NC	watershed capacity	3	Stream Habitat Surveys		Washington Trout	habitat quality/quantity	streams/ponds	\$150,000
Genetic Stock ID	NC	Salmonid Capacity	3	Native salmonid use of spawning habitat-stock ID	Cutthroat, Kokane, brook trout natal streams identified	ACE/KWIAHT/WT	habitat usage	streams	\$40,000
TOTAL COSTS:									\$1,630,000
Technical Assistance/Education - Programs									
TA-Threatened forage fish habitat	NC	Protection	1	Forage Fish Habitat Enhancement	Regulations to protect/enhance forage fish spawning beaches/eelgrass meadows, landowner incentive program	PT, LB	productivity	sand/gravel beach	imbedded
TA- salmon/forage fish habitats	NC	Protection (Salmon+Forage Fish)	1	Nearshore work windows- HPA input	Add county requirements for pre-project survey	MRC/WDFW	nearshore	nearshore	imbedded
TA - salmon habitat	NC	Outline future salmon recovery plans for San Juan	1	WRIA 2 Salmon Recovery Plan / Sub area Plan	Actions proposed to protect and restore Chinook populations	LE	All	marine/nearshore	imbedded
TA - salmon habitat	NC	protect and restore salmon/forage fish habitats	1	salmon and forage fish habitat components in existing programs	coordinated education on the protection of salmon resources	LE	All	all	imbedded
TA - harvest management	NC	Salmon Capacity	1	Section 7 consultation on salmon harvest management plan relative to orca consumption	may affect harvest management plan details	Tribes, WDFW, NOAA	food web	pelagic	imbedded
Education	NC	4th Grade	1	salmon-in-the-schools	Juvenile salmon ecology	SJN,LLTK	life history	nearshore	\$1,000
Education	NC	avoid eelgrass/forage fish beaches	1	Boater Education	Marine Stewardship	Whale museum/MRC	productivity	marinas	\$3,000
Education	NC	clean salmon habitat	1	Oil Spill Education	improve water quality	public works	productivity	surface water	\$0
Education	NC	K-8 education, adult	1	Outdoor Classroom	Juvenile salmon ecology	SJN/FHL/Whale museum	habitat	nearshore	\$1,000
Education	NC	priority habitats	1	Marine Ecosystems Signage - MRC	Public Outreach	MRC grant	habitat	protected areas	\$5,000
TA-Threatened salmon habitat	NC	Protection	2	Incorporate drainage basin planning in Comp Plan/ordinance	assist county planning process	SJC Public Works & Planning	variety	variety	imbedded
TA- salmon/forage fish habitats	NC	Protection	2	Overwater structures	protect eelgrass and beaches through permitting process-"no-net loss"	WDFW/WDNR	productivity	sub-tidal	imbedded
TA- salmon/forage fish habitats	NC	Protection (Salmon+Forage Fish)	2	Landowner conservation motivation	encourage salmon friendly actions on property through incentives	SJC/LB/PT/FSJ (open space program)	all	watershed / nearshore	imbedded
Education	NC	citizen outreach	2	WRIA 2 Salmon Recovery Website	Public outreach	LE		all	\$2,000
Education	NC	Promote use of Low Impact Development techniques	2	LID Education	LID techniques decrease development impacts on ecosystem	SJC Conservation District	All	watershed	\$2,000

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Education	NC	reduce impervious surfaces	2	smart building program education	best building practices	FSJ/SJC	watershed	surface water	\$5,000
TA-Threatened forage fish habitat	NC	Protection (Salmon+Forage Fish)	3	Reduce shoreline armoring	permitting for soft shoreline protection	FSJ/SJC	marine shoreline	nearshore	imbedded
TA- salmon/forage fish habitats	NC	Protection (Salmon+Forage Fish)	3	Management through Best Available Science	Improve Management plans	LB/PT/SJC/MRC/TNC/FSJ	all	all	imbedded
TOTAL COSTS:									\$19,000
Local Salmon Recovery Capacity									
Gaps - salmon habitat	NC	Management needs	1	Ecosystem Based Initiative Project Manager	Improved management				\$100,000
Gaps - salmon habitat	NC	liaison	1	LE - co-ordinate salmon outreach with partners		LE grant			\$245,000
Gaps - salmon habitat	NC	Compile, analyze & document known data sources and GAPS	1	Analyst	compilation and documentation of known data and sources				\$150,000

Partner Organizations Capacity:

- Marine Resources Committee (JMRC)
 - Tulalip Tribe
 - Samish Tribe
 - Lummi Tribe
 - Friends of the San Juan (FSJ)
 - The Whale Museum
 - Western Washington State University Beach watchers Program
 - Skagit River System Co-operative (SRSC)
 - San Juan Conservation District (CD)
 - Skagit Fishery Enhancement Group (SFEG)
 - University of Washington Friday Harbor Laboratories (FHL)
 - San Juan County Land Bank
 - San Juan Preservation Trust (SJPT)
 - Port of Friday Harbor (PFH)
 - Town of Friday Harbor (FH)
 - Salmon Aspect
 - The San Juan Nature Institute (SJNI)
 - Center for the Historical Ecology of the Salish Sea (KWIAHT)
 - WA Department Natural Resources (DNR)
 - Long Live the Kings (Glenwood Springs) (LLTK)
- K-12 marine program
- salmon in the schools

TOTAL COSTS: \$495,000

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cost notes	Funded	Need	status	Scope	Cost 2006	Scope	Cost 2007	Scope	Cost 2008	Scope	Cost 2009	Likely end date	Funds needed after 2009
		unknown	Concept	building program	not determined	easement/ acquisition	not determined	easement/ acquisition	not determined	easement/ acquisition	not determined	on-going	
				identify all sites	\$5,000	develop plan and priorities	\$5,000	begin modifications	\$5,000	begin modifications	\$5,000	2009	
		\$50,000	concept	design	\$10,000	removal	\$40,000					2007	
				identify all sites	\$50,000	develop plan and priorities	\$30,000	begin modifications	\$60,000	begin modifications	\$60,000	2015	yes
				scope of problem	\$50,000	model action	\$60,000	Remove Mill debris	unknown	Remove Mill debris	unknown	2012	yes
06 - Ecology		\$100,000		mapping of major creosote debris areas	\$30,000	removal of creosote material from	\$30,000	removal of creosote material from beaches	\$40,000	removal of creosote	unknown	on going	yes
				ID sites	\$2,000	plantings	\$2,000	plantings	\$3,000	monitor	\$2,000	2009	
County budget plus	SJC	\$500,000		design	\$50,000	replace	\$150,000	replace	\$150,000	replace	\$150,000	2009	
county budget plus		\$125,000		design	\$25,000	design	\$50,000	design	\$50,000	restoration	unknown	2012	yes
	\$115,000			initiation	\$50,000	blueprint	\$75,000					2007	
	existing budget			evaluation		analysis		clean-up action		clean-up action		2009	
				clean-up	\$1,000	clean-up	\$1,000	clean-up	\$1,000	clean-up	\$1,000	on going	
06 - NW Straits				survey/removal of derelict gear	\$5,000	survey/removal of derelict gear	\$5,000	removal of derelict gear	unknown	removal of derelict gear	unknown	2010	\$100,000
		\$150,000		concept		monitor quality	\$50,000	monitor quality	\$50,000	improve quality	\$50,000	2009	
				concept		research	\$30,000	research and evaluation	\$20,000				
		\$11,000		survey Spartina	\$2,000	eradicate	\$3,000	eradicate	\$3,000	eradicate	\$3,000	on-going	
			concept	design	5000-	adapt. Manage.	\$5,000	action	unknown	action	unknown		
		\$60,000				establish sites & monthly data collection		monthly data collection		monthly data collection			
				Total 2006	\$280,000	Total 2007	\$536,000	Total 2008	\$382,000	Total 2009	\$271,000		

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			concept	design proposal		interviews/report	\$15,000	synthesis	\$5,000			2008	
		\$10,000		assessment of key areas	\$5,000	develop prevention plan (IOSA)	\$5,000						
			concept	concept/grant writing	\$2,000	synthesis	\$17,000					2007	
						synthesis	\$2,000	map book	\$3,000			2008	
										white paper	\$3,000	2008	
				information gathering	\$3,000	white paper	\$2,000					2007	
				synthesis	\$2,000	white paper	\$3,000					2007	
						scoping/development		survey		survey		2009	
				synthesis	\$2,000	map book	\$3,000					2007	
				synthesis	\$2,000							2007	
	county budget			evaluation		white paper			\$20,000		\$20,000	2009	
				synthesis	\$2,000	map book/white paper	\$2,000					2007	
						white paper	\$5,000					2007	
				Total 2006	\$18,000	Total 2007	\$17,000	Total 2008	\$23,000	Total 2009	\$23,000		
SSCoop project	SRFB '04	\$50,000	partial funding	categorize habitats forage fish	completed	categorize habitats salmon	funded	categorize habitats salmon	\$30,000	map book	\$20,000	2009	
SRFB	\$70,000	\$140,000	partial funding		funded	seining/tow net	\$70,000	seining/tow net	\$70,000			2008	
ACE	\$0	\$150,000	concept			Complete Lopez survey	\$50,000	SJIs survey	\$75,000	Atlas	\$25,000	2009	
ACE	\$0	\$30,000	concept	pilot	\$0	sampling	\$10,000	sampling	\$10,000	sampling/analyses	\$10,000	2009	
	\$0	\$150,000	concept			sampling	\$50,000	map	\$50,000	analysis	\$50,000	2009	
	\$0	\$30,000	concept	plan research project/collaboration	\$0	collect tissue samples	\$5,000	collect tissue samples	\$5,000	genetic analysis	\$20,000	2009	
	\$0	\$30,000	concept			sampling	\$10,000	sampling	\$10,000	analysis	\$10,000	2009	
	SRFB	\$0	funded	mapping	\$30,000	mapping	\$60,000	map book	\$25,000			2008	
	\$0	\$150,000	concept	develop plan		model experiment		field work	\$1,000,000	analysis	\$50,000	2009	

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	SRFB	\$0	pilot		funded	assess eelgrass declines	\$25,000	asses eelgrass declines	\$25,000			2008	
	SRFB	\$0	partial funding	develop plan	\$68,000	develop model	\$68,000					2007	
Deer Harbor watershed is completed	\$0	\$100,000	partial funding	survey	\$20,000	survey	\$30,000	survey	\$30,000	map book	\$20,000	2009	
	\$0	\$200,000	concept			sample habitats	\$750,000	sampling	\$750,000	evaluation of work to date/ sampling/analyses	\$500,000	2009	
		\$30,000	concept			design	\$5,000	sampling	\$10,000		\$10,000	2009	
		\$30,000	analysis	analysis	\$5,000	analysis	\$10,000	analysis	\$10,000	synthesis	\$5,000	2009	
	\$0	\$150,000	concept	develop plan	\$20,000	sample habitats	\$50,000	sampling	\$50,000	model	\$30,000	2009	
	\$0	\$40,000	concept			analysis	\$20,000	analysis	\$20,000			2008	
				Total 2006	\$143,000	Total 2007	\$1,213,000	Total 2008	\$2,170,000	Total 2009	\$750,000		
	completed (SRFB)	\$0										2004	
results from SRFB juvenile		\$0	into management	juvenile salmon use of nearshore habitats	\$0							2006	\$0
	SJC			develop plan	\$20,000	implementation	\$10,000	implementation	\$10,000	implementation	\$10,000	2009	
				outreach/coordination	\$5,000	integrated plan	\$10,000		not determined		not determined	ongoing	
	included in agency budgets	\$0	consultation underway per ESA	separate hatchery stocks								2007	
				planning	\$500	implementation	\$500	implementation	not determined	implementation	not determined	ongoing	
		\$3,000		stewardship coloring book	\$3,000				not determined		not determined	2007	
				planning	not determined	workshop	determined	workshop	not determined	workshop	not determined		
				planning	\$500	implementation	\$500	implementation	not determined	implementation	not determined	ongoing	
grant	\$10,000			planning	\$1,000	implementation	\$2,000	implementation	\$2,000			2008	
		\$0	concept									2007	
	WDFW		partial funding	id sites								ongoing	
												ongoing	
				development	\$1,000	implementation	\$1,000	maintenance	not determined	maintenance	not determined	ongoing	
				planning	\$1,000	implementation	\$1,000	maintenance	not determined	maintenance	not determined	ongoing	

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		\$5,000		scope	\$2,000	workshop	\$3,000					ongoing	
												ongoing	
				Total 2006	\$34,000	Total 2007	\$28,000	Total 2008	\$12,000	Total 2009	\$10,000		
.5 FTE	\$50,000	\$100,000		planning	\$10,000	contacts	\$40,000	coordinated network	\$50,000		not determined		
1.0 FTE	\$150,000	\$95,000		coordinate salmon recovery efforts in	\$5,000	coordinate salmon recovery efforts in	\$80,000	coordinate salmon recovery efforts in SJC	\$80,000	coordinate salmon recovery	\$80,000	ongoing	\$80,000/yr
.5 FTE	\$0	\$125,000		compile, analyze data & sources	\$20,000	compilation & analysis of data & sources	\$35,000	complete compilation & analysis of data & sources	\$35,000	compilation & analysis of data & sources	\$35,000	Jul-05	\$0
					Total 2006	\$35,000	Total 2007	\$155,000	Total 2008	\$165,000	Total 2009	\$115,000	