

## **Narrative for WRIA 2 / San Juan County Salmon Recovery 3 Year Work Program for 2009**

*Adaptive Management is the overarching theme for 2009 and most likely also for 2010 for San Juan County's salmon recovery work.*

A brief background is provided here to provide the context for the questions being asked for this 2009 work plan update.

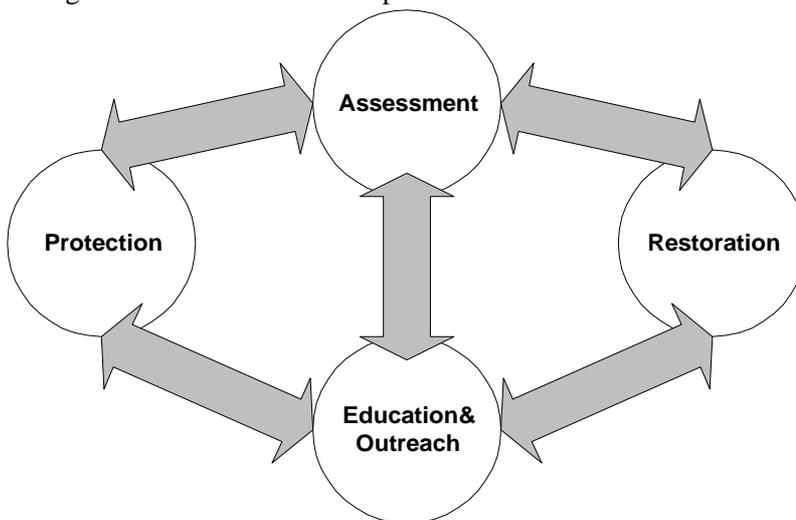
Over the last few years, WRIA2 has concentrated on performing assessments necessary to fill critical data gaps to document the important habitats in the San Juans and to have a better understanding of how, when and where salmon are utilizing San Juan County's shorelines and marine waters. This is the highest priority action(s) identified in the San Juan County Salmon Recovery Chapter:

The key goal in 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. In San Juan County (WRIA2) protection of high quality nearshore marine habitat is the top salmon recovery goal. The current prioritized action strategy to meet the protection goal is:

1. Assessment Projects – fulfilling critical data gaps via assessments which will enhance and support protection and identify needs and opportunities for restoration;
2. Protection Projects – includes data sharing, stewardship, acquisition and easements, incentives and education;
3. Restoration Projects – to be based on habitat condition assessments.

Assessments ranked first for WRIA2 because - at least for the next several years - better information will significantly enhance the use of existing voluntary and regulatory tools for nearshore habitat protection and restoration.

The following diagram illustrates the intended inter-connections among the three strategic arms and the relationship to the shared outreach and education component.



Since multiple assessments have now been completed in WRIA2, a workshop was hosted by the Lead Entity in January to bring together the citizen and technical advisory groups (CAG & TAG), local sponsors and local resource managers, Puget Sound Recovery Implementation Technical Team (RITT) members, regional and tribal representatives along with state and federal agency representatives to receive an overview of the recent assessment results. The groups also started discussing what the assessment information may mean and how WRIA2 may need to update the local work plan to utilize the new information.

Additional adaptive management discussions have been occurring since January with the local salmon TAG and the Marine Resources Committee (CAG) Salmon Subcommittee. The adaptive management matrix provided by the RITT has been instrumental in these discussions and has helped highlight that San Juan County has achieved, or is very close to achieving, a majority of the original recovery chapter goals and actions. The matrix exercise and discussion documented that only a couple of additional assessments are still needed and also highlighted a few areas where additional work is needed.

The local salmon groups plan to continue these adaptive management conversations over the next year and will continue to complete additional sections of the matrix to help identify next steps for updating the local work plan and possibly the need to update the local salmon recovery chapter.

This context is helpful background information to provide as we respond to the questions being asked for this 2009 work plan update:

*Consistency Question*

**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?**

The 3 year work plan spreadsheet with the list of project and programmatic actions is included with this narrative. The descriptions from the HWS have also been included with the projects in the spreadsheet and a brief summary for each section is also provided later in this narrative.

*Pace/Status Question*

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

As noted previously, the adaptive management guidance and matrix provided by the RITT helped document the status of the strategies and actions outlined in the WRIA2 recovery chapter. Most of the actions outlined in the chapter have been or will be completed in the next year or so. Documenting the status of the plan's actions in the matrix also helped identify where there are a few critical data gaps that still exist such as mapping of feeder bluffs and completing the Class I beach inventory.

The WRIA2 salmon recovery chapter does not have a timeline for actions so the pace had not been established in the plan, however, since WRIA2 has completed many actions listed in the chapter we may be ready to update the local SJC chapter in advance of other watersheds.

**3. What is the general status of implementation towards your habitat restoration, habitat protection, harvest management, and hatchery management goals? Progress can be tracked in terms of 'not started, little progress, some progress, or complete' or in more detail if you choose.**

The primary goals of the local chapter are to fill critical data gaps, document the important habitats in the San Juans, and to have a better understanding of how, when and where salmon are

utilizing San Juan County's shorelines and marine waters. Now that these data gaps identified in the chapter are complete or nearly complete, we will now analyze and use the information for prioritization of key actions for protection and restoration. As noted, many original actions are completed or will be completed in the next couple of years, however some actions are more programmatic and will continue.

#### *Sequence/Timing*

**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?**

The top priorities, as previously noted, in WRIA2 are protection actions and assessments to fill data gaps. We may need support to complete the final assessments for feeder bluff mapping and the Class I beach inventory. Assessments will then lead to restoration and protection actions.

We acknowledge that we still need to prioritize our protection and restoration actions. We anticipate that the results of the "Big Picture" project will provide us with information regarding fish utilization of the San Juans to be able to formalize a prioritization schema. Once the results of the "Big Picture" project are completed we will need to re-run the *Salmon Habitat Protection Blueprint* so that it now includes the salmon data to prioritize key locations for protection efforts such as acquisitions or conservation easements and also for restoration actions.

We have been using assessments to lead to restoration projects. The *Nearshore Impact Assessment* and the *Soft Shore Protection Blueprint for San Juan County Forage Fish Beaches* identified a number of restoration projects in the county and have led to some of these projects being funded in previous grant rounds and additional ones are being proposed for this grant round.

Assessments have also been used for protection efforts, such as being used in the CAO Update i.e. the eelgrass, kelp, and forage fish spawning beach maps. We also have additional assessments in progress or to be funded in the work plan that will feed into the SMP Update which may possibly begin later in 2009 and is scheduled for completion in 2012.

#### *Next Big Challenge*

**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 & why?**

No, we have continued - frequently in the face of significant opposition - to pursue our recovery chapter's goals of filling critical data gaps. Additionally, we have sought funding for restoration and protection projects when the assessments and feasibility results have supported them. Thus we have been diligently following the goals and strategies laid out in our recovery chapter.

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

Our focus has been on obtaining a fundamental understanding of the role of the nearshore and specifically, the role of the San Juans in supporting salmon - their habitats and food web. Thus, we essentially have baseline data now for critical habitats such as extent of eelgrass, kelp, documented forage fish beaches, etc. And soon, we will have information indicating which nearshore habitats appear to be of greatest value to juvenile migrating salmon.

We will now be evaluating what it is we should be monitoring, for example do we repeat the baseline habitat assessments every x years to determine the trends of whether we are gaining or losing these habitats? Do we repeat the juvenile fish utilization study in x years to determine change analysis of the resource(s) in the San Juans? Discussions with the Marine Resources Committee (MRC) will continue in the context of their Marine Stewardship Area (MSA) Monitoring Plan regarding what other things should be monitored in our nearshore environment, i.e. water quality, additional species presence and/or abundance, threats, other habitat trends, etc?

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

- Consistent funding for the local LE Program will continue to be at risk as the County is no longer providing any funding.
- Support to keep the local Adaptive Management (AM) conversation and process occurring. We look forward to the meeting the end of June to formalize the local AM process.
- We may require assistance in the not too distant future in potentially updating the WRIA2 recovery chapter. Do we need regional and/or federal support, approval, guidance, assistance to do so?
- The results of the San Juan Initiative highlighted the need for basic County infrastructure without which there is little support for existing and future regulatory protections. The needs identified via the SJI were: (see Non-Capital section for additional details)
  - Regularity compliance and enforcement,
  - Technical assistance for landowners.This issue has been exacerbated further over the last few months as San Juan County's budget deficit is estimated currently to be a \$1-2.5 million dollar shortfall so planners, permit coordinators, and enforcement staff are being significantly reduced.
- Additionally, state natural resource agencies such as DNR and WDFW have significantly reduced their resources, thus incurring additional losses for monitoring and survey work. WRIA2 will be forced to find funding to continue tracking local resources.
- Guidance on what we should be monitoring, and how we fund it? It took us a decade to cobble together the funding to get to our current "baseline" assessments. Based on our past experience, there doesn't appear to be any support to continue funding assessments and certainly even less interest in funding monitoring.

**Work Plan**

Previously, since WRIA2 never had a place to track projects, the 3 year work plan spreadsheet by default became the place to document known projects. Thus the previous spreadsheet(s) documented all identified projects and programs necessary for salmon recovery. With the implementation of the Habitat Work Schedule (HWS) over this last year, the 3 year work plan spreadsheet is a more accurate representation of what projects are currently in progress, can be started in the next 3 years, or can be completed over the 3 year period. Additionally some projects which are really programs are ongoing and thus would extend beyond the 3 year timeframe.

In addition to the salmon recovery habitat projects, we have chosen to also populate the HWS with programmatic efforts. Thus, we are populating the Habitat Work Schedule (HWS) with all salmon recovery activities in San Juan County.

### *Prioritization*

Projects in the 3 year plan are prioritized based on Tiers. None of the projects in the plan are prioritized beyond the overall tiers.

- Tier I projects are projects which address the highest priority work such as protection actions or assessments of critical data gaps that will help in future prioritization of protection and restoration actions.
- Tier II projects are restoration projects. It is anticipated that Tier II restoration projects would become higher priority if/when they are supported by, or are the result of, assessment results that support the restoration activity.

We expect that when the results of the “*Big Picture*” project become available in the next few years that habitat type and spatial prioritization will become more likely.

### *Overview*

The issues facing WRIA 2 are those of protecting quality habitat and restoring modified or degraded habitat. Much of the 408 miles of shoreline is high quality but pressure from development is impacting nearshore areas and water quality. San Juan County is experiencing some of the most rapid growth in Washington State with shoreline and nearshore habitats becoming increasingly stressed from residential and urban development and recreational / tourism uses. Past agricultural practices and water withdrawals have degraded the limited freshwater spawning and rearing habitats in the islands. Freshwater 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. Water quality is affected by failing septic systems, wastewater effluent and contaminants. Inputs of water and air pollution from outside of the County may also be affecting nearshore habitat quality. Marine waters are impacted by point and non-point pollution at fuel docks and marinas and from potential oil spills.

Once critical habitats have been identified for salmon and their prey, protection and restoration of these habitats will be a priority. Additionally, as water quality and quantity issues are better documented and understood protection from these impacts become of interest to the community and are also important to address.

### **Capital Projects**

San Juan County has over 400 miles of shoreline to evaluate in light of habitat for salmon and their prey. Restoration projects are supported based on the results of previous assessment work such as the *Nearshore Impact Assessment* and the *Soft Shore Protection Blueprint for San Juan County Forage Fish Beaches* and due to previously funded feasibility studies such as for Deer Harbor, Thatcher Bay and Garrison Creek. These projects will increase habitat quality for salmon and their prey.

The acquisitions in the work plan would permanently protect significant shoreline areas in False Bay and Westcott Bay. The Cascade Creek acquisition would protect a significant portion of the only remaining unprotected sections of Cascade Creek along with adjacent tidelands. Cascade Creek is one of the very few year round fresh water streams in the San Juans.

### **Non-Capital Projects**

The work plan highlights a number of protection actions that are the primary focus of salmon recovery work in the San Juans. Once the results of the “*Big Picture*” project are completed and the results of the *Shoreline Modification Inventory*, it will be necessary to re-run the *Salmon Habitat Protection Blueprint* including the salmon data and impacted locations to prioritize key locations for protection efforts such as acquisitions or conservation easements and also for restoration actions.

Protection actions are much more than just acquisitions or conservation easements and include all of the work necessary to educate the public on why salmon are critical and necessary resources for humans and

other species, what issues are occurring in our natural environment, and information regarding how to manage and steward natural resources. This is being carried out via a number of Education and Outreach programmatic activities working with a number of local organizations.

Protection is also ensuring that regulatory and voluntary actions are effective and require working with local organizations including San Juan County government to highlight existing voluntary incentive protection programs, working to create new incentive programs, implementing protective regulations via the CAO Update and the future SMP Update, and implementing County code which supports LID techniques and projects.

The Lead Entity Coordinator has actively participated in the CAO Update Committee meetings through the year and recently has been the representative for the Marine Resources Committee on the CAO Committee. Direct participation in this process has led to best available science and many of the previously funded assessments being actively considered as the CAO Committee makes its decisions. The results of the CAO Update will be one of the more important long term and far reaching actions that will provide greater protection for WRIA2's wetlands, streams and shorelines.

The results of the *Shoreline Modification Inventory* and completing the feeder bluff and Class I beach mapping are projects that will provide critical components necessary for the upcoming SMP Update scheduled to start in 2010, possibly in late 2009 if funding can be made available.

The *Ecosystem Based San Juan Initiative(SJI)* led by a broad constituency of volunteer community leaders and regional resource managers, evaluated how successful local volunteer, incentive, regulatory and education programs are in securing the vitality of our natural resources for future generations.

The results of the SJI are now highlighted as separate habitat protection projects:

- *Education and Technical Assistance to Improve Protection,*
- *Improving Enforcement,*
- *Improving Incentives for Shoreline Protection,*

Some of these projects/programs are in the process of being implemented. However, some of this work requires support and/or resources from San Juan County staff which is difficult with the current budget issues and lay offs. Most of these projects/programs need additional funding in order to implement the key results of the SJI project.

### **Outreach and Education**

WRIA2 is seasonally affected by human population increases, both from summer residents and visitors. Two approaches to achieving our goals must be made: residents and businesses need information and encouragement to develop and steward 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 has several vectors: scientists in the classroom, salmon in the schools program, adult education and lecture series, etc. The Beach Watchers program began in 2006 and focuses on ecosystem awareness for residents and visitors to San Juan County. Educational outreach includes workshops and classroom experiences for residents and information exchange at marinas and ferry terminals for visitors.

Guidance is needed for 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 4<sup>th</sup> grade students where they spend a semester learning about Chinook salmon and rearing juveniles for release.

Increased awareness of managers and citizens of proactive methods they can use as part of the San Juan County Marine Stewardship Area (MSA) is a key component of the outreach work in WRIA2 and is spearheaded by the MRC. An understanding of the links between watersheds, land use, and nearshore habitats are emphasized.

The Lead Entity and the MRC combined their resources in 2008 to hire a very part time Education & Outreach Coordinator to help with much needed public outreach and education and message coordination. These two programs with the guidance of the Outreach Coordinator create an ongoing electronic newsletter titled "Stewardship Connections" to help highlight local marine issues, actions and events. Additionally, the Outreach Coordinator is coordinating the messaging and efforts of most of the local organizations providing education and outreach programs. The coordinator facilitates regular meetings with these participating organizations.

Technical Assistance to landowners regarding how to develop and steward their property is a critical component in being able to modify behaviors and to create a "stewardship ethic." A key result of the SJI documented the need for technical assistance in a variety of forms from web site information to on the ground assistance. They are attempting to resolve this need through partnerships via their *Education and Technical Assistance to Improve Protection* project.

### **Salmon Recovery Coordination/Implementation**

Each year more is asked of the Lead Entity Coordinators throughout the state yet the base funding to support salary, travel, supplies and office expenses has not increased since 1999 although the Lead Entity role has expanded significantly. In 2006 San Juan County increased their funding portion to ensure a full-time Lead Entity Coordinator position. Due to budget issues, as of 2009 San Juan County no longer provides any funding for the Lead Entity program so it must be fully grant funded. Additionally, the County now requires 15% from any grants supporting the program so the need for funding is greater each year.

There are currently over 20 governmental and non-governmental partners involved in conservation, education, research, planning and managing the marine resources in San Juan County. The Lead Entity Coordinator is becoming a clearing-house of ideas, information and actions along with the primary point of contact for any and all habitat related projects in the county. The Lead Entity Coordinator is necessary to promote collaboration, eliminate redundancy and focus on priorities among the many partner organizations.

The Lead Entity program wish list includes having a fully funded position that is not at risk during county budget crises. And could use additional support to increase local capacity through some part time help such as a Department Assistant to provide general administrative support and/or to provide support for contracting, grant billing, reporting and new grant development.

### **Instream Flow Protection**

KWIAHT and Wild Fish Conservancy along with SJC Health Department and DOE are working to monitor some of the streams in SJC. WA Water Trust is interested in evaluating the water rights, i.e. water budget, in critical watersheds to identify areas where fresh water restoration projects would have water available for salmon.

Currently there is no real "owner" for surface water, flow issues, and freshwater monitoring in the county. The Lead Entity Coordinator has attended the Water Resources Management (WRMC) meetings to help keep this issue highlighted as an area of importance. The WRMC is now evaluating their role in determining watershed capacity, water budgets and in-stream flow concerns.

## **Monitoring**

The local salmon groups as part of their Adaptive Management process plan to evaluate local monitoring needs. Key questions revolve around what it is we should be monitoring for salmon recovery in a predominantly nearshore environment. For example do we repeat the various assessments every few years to determine change analysis of the resource(s) in the San Juans? Guidance is requested on what we should be monitoring, and also how we fund it? It took us a decade to cobble together the funding to get to our current "baseline" assessments. It doesn't appear that there is any support to continue funding assessments and certainly even less interest in funding monitoring.

The Marine Resources Committee (MRC) has drafted a monitoring plan for the Marine Stewardship Area (MSA). The MSA Plan has Pacific Salmon as a target and the Lead Entity is actively involved in the Science Subcommittee who developed the monitoring plan. The next steps for the MSA Monitoring Plan are a peer review of the plan, prioritization of actions outlined in the plan, and overall coordination of the various monitoring efforts occurring in the San Juans. Discussions with the MRC will continue in the context of their MSA Monitoring. As the salmon recovery monitoring is developed it will also be incorporated in the MSA Monitoring Plan.

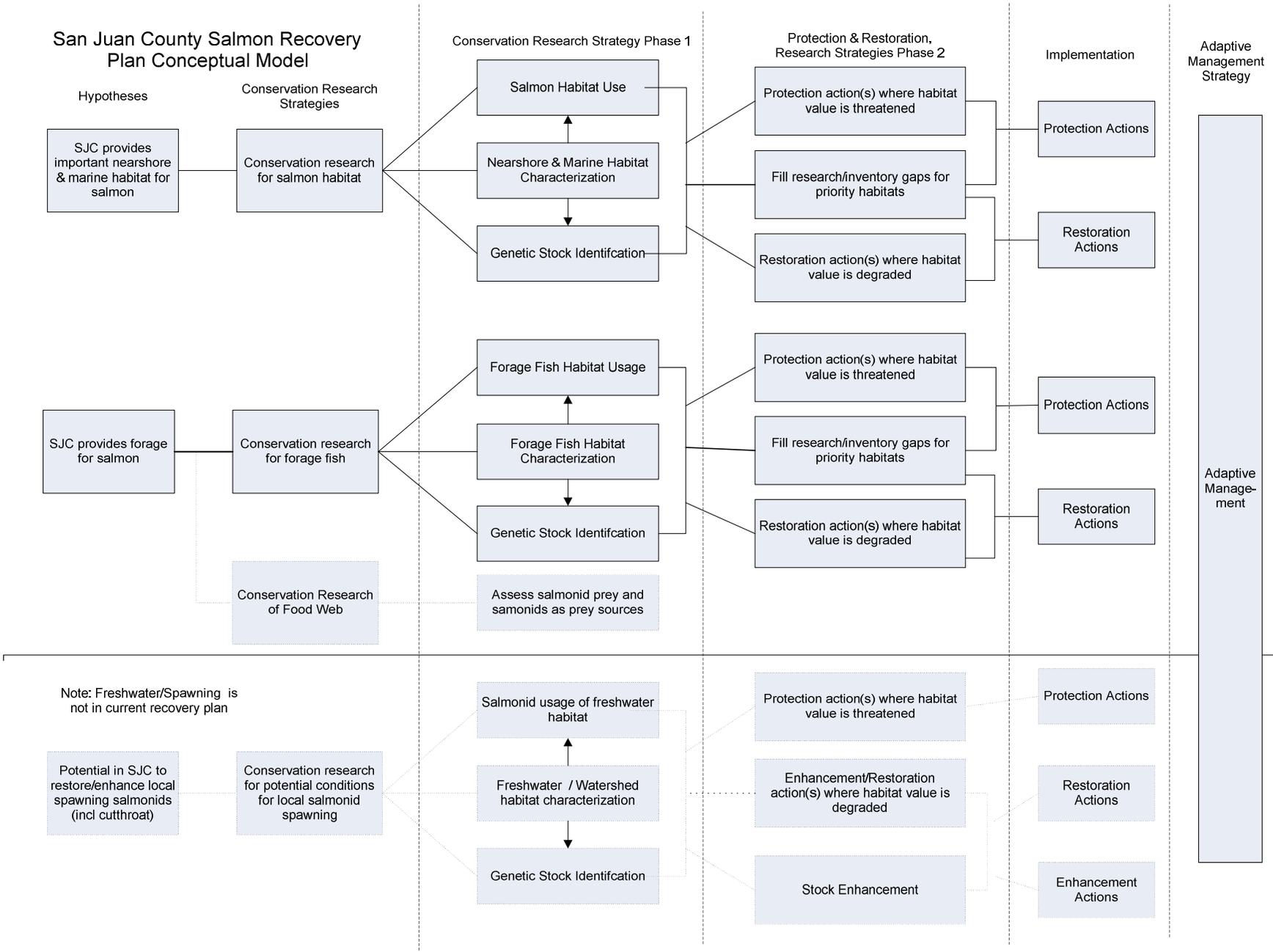
## **Other (Hatchery)**

A key goal in WRIA2 is to understand the importance of nearshore habitats to Chinook populations. Although thus far in our fish utilization studies we appear to see predominantly non-tagged (wild?) fish in the San Juans it is known that hatchery fish originating from outside of WRIA2 are also utilizing the San Juans. Interactions of wild Chinook populations with hatchery fish need to be better understood.

There is one small hatchery (Glenwood Springs) in the San Juans run by Long Live the Kings (LLTK) and is located on Orcas Island. There are special aspects of the Glenwood Springs hatchery program, such as natural rearing, that could be of importance in how these fish use the local habitats. We have seen the number of tagged fish caught in the East Sound area jump significantly when the local hatchery fish are released but we don't as yet know where they disperse. LLTK are coded wire tagging and fin clipping all of their fish and it would be beneficial to better understand how these local hatchery fish are utilizing WRIA2. This research question may start to be answered via a potential partnership on the *Resident and Migrant Salmon Nearshore Habitat Identification - Telemetry Study* to acoustically tag local hatchery fish to attempt to map their migration patterns and possible interactions with wild fish.

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



Note: Not clear what is

Project Type	Plan Category	Project Name	Project Description	Priority tier of project	Limiting Factors	Reference Document for limiting factor	Habitat Type	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status	Year 1 Activity to be funded (ie # of design, permitting, construction, etc.)	2009		2010		2011		Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)	Project ID		
												Year 1 Estimated Budget	Year 2 Activity to be funded	Year 2 Estimated Budget	Year 3 Activity to be funded	Year 3 Estimated Budget									
<b>Capital Projects</b>																									
Acquisition for Protection	Acquisition Pro	Cascade Creek Acquisition	This project will acquire 3.66 acres of riparian corridor, marine	I	Stream Flow, Water Quality,	?	Upland, Instream,	Chum, Chinook,		Feasibility Completed	acquisition	\$225,000	n/a	\$0	n/a	\$0	12/31/2010	San Juan Preservation	\$225,000	\$34,000	SRFB or PSA	100			
	Acquisition Pro	Webb Property Acquisition	The Webb property, Westcott Bay, San Juan Island is the	I	Estuarine and Nearshore	?	Nearshore (Embayment)	Chinook		Feasibility Completed	acquisition	\$6,000,000	n/a	\$0	n/a	\$0	12/31/2010	San Juan County Land	\$6,000,000	tbd	SRFB or PSA	88			
Acquisition for Restoration	Acquisition Pro	Ketter Property (Mar Vista) Acquisition	Ketter property (Mar Vista Resort), located at the mouth of	I	Estuarine and Nearshore	?	Nearshore (Beaches),	Chinook	Chum (Secondary)	Feasibility Completed	acquisition	\$8,000,000	n/a	\$0	n/a	\$0	12/31/2010	San Juan County Land	\$8,000,000	tbd	SRFB or PSA	89			
Restoration	Restoration Pro	Point Lawrence Road/Cascade Creek Culvert Replacement	This project was funded in the 2007 SRFB round and the work is	II	Floodplain Connectivity &	?	Nearshore (Embayment)	Chum, Chinook,	Coho (Secondary)	Feasibility Pending,	Design, Permitting,	\$200,000	constructi	\$750,000	monitoring	\$25,000	12/31/2010	San Juan County Public	\$900,000	\$726,923	SRFB, SJC	07-1539			
	Restoration Pro	Deer Harbor Estuary Restoration	People for Puget Sound will use this grant to begin restoring the	II	Estuarine and Nearshore	?	Nearshore (Beaches),	Coho, Cutthroat		Feasibility Completed							12/31/2010	People for Puget Sound	\$172,573	\$25,900	PSAR, SRFB	07-1649			
	Restoration Pro	Shoal Bay Tide Gate Removal Project	Remove tide gate and restore tidal channel	II	Channel Structure and	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed	implementatio	\$116,000	permitting and	\$15,000	monitoring		12/31/2009	Friends of the San Juans	\$116,000	\$35,500	CSF, SRFB, B	07-1740			
	Restoration Pro	Smuggler's Cove Road Forage Fish Habitat Restoration	Remove derelict intertidal rock, forage fish habitat restoration	II	Water Quality, Reduced	?	Nearshore (Beaches)	Chinook, Coho		Design Completed	implementatio	\$106,000	permitting and		monitoring		12/31/2009	Friends of the San Juans	\$106,000	\$16,000	SRFB	07-1744			
	Restoration Pro	Neck Point Coastal Marsh Restoration	Past development of nearshore environments has resulted in the	II	Riparian Areas & LWD	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed	permitting	\$15,000	implementa	\$45,000			6/15/2012	Friends of the San Juans	\$60,000	\$8,069	SRFB	07-1801			
	Restoration Pro	San Juan Derelict Fishing Net Removal - Phase 1	The Northwest Straits Marine Conservation Foundation will use	II	Estuarine and Nearshore	?	Nearshore (Beaches),	Chum, Chinook,	Rockfish, Pacific Harbor	Permitting Completed							6/30/2009	NW Straits Marine Cons	\$85,525	\$15,100	SRFB	07-1845			
	Restoration Pro	Thatcher Bay Nearshore Restoration - permit phase	A mill operating on the beach from the late 1800s until the	II	Reduced Habitat	?	Nearshore (Embayment)	Chum, Chinook,	Coho (Secondary)	Feasibility Completed	survey, outrea	\$20,000	implementa	\$57,350	monitoring		12/31/2011	Friends of the San Juans	\$77,350	\$11,750	SRFB, RFF, B	08-1936			
	Restoration Pro	Mooring Buoy Eelgrass Restoration Pilot Project	Friends of the San Juans (FSJ) will utilize the mooring buoy	II	Reduced Access to	?	Nearshore (Beaches),	Chum, Chinook,		Feasibility Pending							10/31/2009	Friends of the San Juans	\$350,000	\$52,500	SRFB	08-1927			
	Restoration Pro	Shoreline Restoration at sites identified in Soft Shore Restoration Blueprint	For the last five years, FRIENDS has been working with shoreline	II	Water Quality, Loss of	?	Nearshore (Beaches),	Chinook	Coho (Secondary)	Feasibility Completed							10/31/2012	Friends of the San Juans	TBD		SRFB, PSAR	10			
	Restoration Pro	Blakely Island- n. Thatcher Bay Forage Fish Restoration Project	Rehabilitation with Reduced Facility Size	II	Water Quality, Excessive	?	Nearshore (Embayment)	Chinook	Bull Trout (Secondary)	Design Completed	design and per	\$20,000	implementa	\$130,000			12/31/2012	Friends of the San Juans	\$150,000	\$22,500	Pioneers in C	15			
	Restoration Pro	Derelict Gear Removal	Restore benthic habitat for eelgrass; eliminate direct species	II	Predation/Competition/Dis	?	Nearshore (Rocky)	Chinook	Coho (Secondary)	Permitting Completed	Removal	\$700,000	Removal	\$700,000	Removal	\$700,000	10/31/2020	NW Straits Marine Cons	\$2,500,000	\$300,000	PSAR, NOAA	18			
	Restoration Pro	Garrison Creek Watershed Restoration (Phase II a)	Fence livestock and remove invasives	II	Water Quality/Loss	?	Instream	Coho	Cutthroat (Secondary)	Conceptual	NA	NA	NA	NA	Labor	\$40,000	10/31/2009	Wild Fish Conservancy	\$40,000	Unk.	Unk.	19			
	Restoration Pro	Garrison Creek Watershed Restoration (Phase II b )	Culvert replacement/retrofit; channel realignment, wood	II	Floodplain Connectivity &	?	Instream	Coho	Cutthroat (Secondary)	Conceptual	NA	NA	NA	NA	Contractors, materials,	\$350,000	10/31/2015	Wild Fish Conservancy	\$350,000	Unk.	Unk.	20			
	Restoration Pro	West Beach Culvert Replacements	The goal of this project is to restore connectivity for native	II	Reduced Access to	?	Instream	Chum	Cutthroat (Secondary)	Feasibility Pending	Design/Permit	\$100,000	Design/Permits or	\$100,000	Constructio	\$200,000	10/31/2011	Wild Fish Conservancy	\$400,000	Unk.	PSAR or SRF	21			
	Restoration Pro	Shaw Landing creosote bulkhead removal	Bordering the Washington State Ferry landing on Shaw Island is a	II	Estuarine and Nearshore	?	Nearshore (Embayment)	Chum, Chinook,		Feasibility Pending							10/27/2011	tbd	\$250,000		SRFB	25			
	Restoration Pro	Neck Point Lagoon Reconnection	The intertidal lagoon at Neck Point on Shaw Island connects	II	Loss of Habitat,	?	Nearshore (Embayment)	Chum, Chinook,		Feasibility Pending							5/29/2014	tbd	\$350,000		SRFB, Public	26			
	Restoration Pro	Deer Harbor Bridge Replacement	Replacement of the Channel Road Bridge that mitigates the	II	Excessive Sediment,	?	Nearshore (Embayment)	Chinook	Cutthroat (Secondary)	Feasibility Completed							12/31/2013	San Juan County Public	\$1,864,000		PSAR, Public	4			
	Restoration Pro	Fish Trap Creek re-charge and flow regulation	Partly rebuild earth dam and install valve for release of lake	II	Stream Flow, Altered	?	Instream, Rivers/Strea	Chinook	Cutthroat (Secondary)	Conceptual							10/31/2013	tbd	\$275,000		SRFB	6			
	Restoration Pro	Pickett Springs Salt Marsh	Re-creation of a salt marsh where currently there are two fresh	II	Loss of Habitat,	?	Nearshore (Embayment)	Chum	Coho (Secondary)	Design Completed							10/31/2010	People for Puget Sound	\$225,000			7			
	Restoration Pro	Mackaye Harbor/Barlow Bay Community Shoreline Restoration Project	During Phase One of the Mackaye Harbor Community Nearshore	II	Water Quality, Reduced	?	Nearshore (Beaches)	Chinook	Coho (Secondary)	Feasibility Completed	final design an	\$15,000	implementa	\$85,000	implementat	\$50,000	12/31/2010	Friends of the San Juans	\$150,000	\$50,000	CSF secured	8			
	Restoration Pro	False Bay Riparian Enhancement	1. Mouth of False Bay Creek - approximately 20 acres owned by	II	Floodplain Connectivity &	?	Riparian, Instream,	Chum, Coho, Cutthroat	Chinook (Secondary)	Conceptual, Land	Feasibility	\$75,000	Design	\$200,000	Permits	\$50,000	12/31/2011	San Juan Islands	\$325,000	\$62,500	CSF, SRFB	99			
	Restoration Pro	Save Fisherman Bay	Fisherman Bay (Lopez) is actually a large shallow estuary, originally	II	Water Quality, Altered	?	Nearshore (Embayment)	Chinook, Sockeye	Pacific Herring, Killer Whale,	Conceptual	Feasibility	\$75,000	Design	\$60,000	construction	\$375,000	12/31/13	KWIAHT	\$510,000	\$77,000	SRFB	86			
<b>Total Capital Need</b>																				<b>\$23,481,448</b>					
<b>Non-Capital Projects</b>																									
Harvest Management	Non-Capital Pro	Section 7 consultation-salmon harvest management plan re: orca consumption	may affect harvest management plan details		Predation/Competition/Dis	?	N/A	Chinook		Conceptual								San Juan County Lead	\$0			68			
Habitat Project Development	Non-Capital Pro	Juvenile Salmon Prey Base Protection (WRIA2)	KWIAHT will use this grant to study the food sources for	I	Biological Processes,	?	Nearshore (Beaches),	Chinook		Design Completed							9/30/2010	KWIAHT	\$87,870	\$15,910	PSAR	07-1770			
	Non-Capital Pro	WRIA2 Habitat Based Assessment of Juvenile Salmon (Big Picture Project)	Estuary and nearshore habitats are occupied by juvenile salmon	I	Biological Processes,	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed							12/31/2010	Skagit River System	\$766,706	\$115,881	PSAR	07-1863			
	Non-Capital Pro	San Juan County Shoreline Modification Inventory	The goals of the San Juan County Shoreline Modification Inventory	I	Water Quality, Reduced	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed	countywide inv	\$75,000	restoration prioritizatio	\$39,500			12/31/2011	Friends of the San Juans	\$114,500	\$14,500	PSAR	08-1929			
	Non-Capital Pro	Resident and Migrant Salmon Nearshore Habitat Identification - Telemetry Study	Acoustic telemetry study of timing, residency and habitat use	I	Reduced Habitat	?	Nearshore (Beaches),	Chinook	Coho (Secondary)	Design Completed							12/31/2012	University of Washington	\$300,000	\$45,000	PSAR	87			
	Non-Capital Pro	Salmon Habitat Protection Blueprint Update	When results of the Juvenile Salmon Data from the Big Picture	I	Loss of Habitat,	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed							1/1/2012	Friends of the San Juans	\$75,000	\$11,250	PSAR, SRFB	103			
	Non-Capital Pro	Long-Term Habitat Protection as identified in FSJ Habitat Protection Blueprint	Friends of the San Juans is working with project partners to	I	Reduced Access to	?	Nearshore (Beaches)	Chinook		Feasibility Pending	foster landowner		rerun model with easements and		easements and		12/31/2012	Friends of the San Juans	\$5,000,000	\$750,000	SRFB, PSAR	29			
	Non-Capital Pro	Garrison Creek Watershed Restoration (Phase I)	Feasibility Study - Reconstruct historical floodplain conditions;	II	Floodplain Connectivity &	?	Riparian, Instream,	Coho	Chum; Trout	Funded	Design/Feasibi	\$150,462	NA	NA	NA	NA	12/31/2011	Wild Fish Conservancy	\$150,462	NA	SRFB	08-1941			
	Non-Capital Pro	SJL - Develop Grant Program to Remove Bulkheads Critical to Salmon Recovery	Develop a granting program to remove bulkheads along beaches	II	Loss of Habitat,	?	Nearshore (Beaches),	Chinook	Cutthroat (Secondary)	Feasibility Completed							12/31/2015	San Juan Initiative	\$200,000		CSF	97			
Habitat Protection	Non-Capital Pro	San Juan Ecosystem Based Protection Initiative	Evaluation of existing regulatory, voluntary and incentive programs	I	Riparian Areas & LWD	?	Nearshore (Beaches),	Chum, Chinook,		Design Completed							6/30/2009	Surfrider Foundation -	\$500,000	\$75,000	SRFB, NFWF	06-2291			
	Non-Capital Pro	Sand lance-Deep water habitat	The Pacific sand lance (Ammodytes hexapterus) is an	I	Biological Processes,	?	Nearshore (Beaches)	Chinook, Coho,	Chum (Secondary)	Feasibility Pending							5/15/2013	tbd	\$250,000		SeaGrant	11			
	Non-Capital Pro	CAO Update	The Lead Entity actively participates in ongoing multiple	I	Floodplain Connectivity &	?	Upland, Riparian,	Chinook	Cutthroat (Secondary)	in progress							12/31/2009	San Juan County	\$0			37			
	Non-Capital Pro	Nearshore Habitat Protection through Policy and Plan Review	Despite policy protection and broad recognition of its	I	Water Quality, Excessive	?	Nearshore (Beaches),	Chinook		Conceptual							12/31/2014	Friends of the San Juans	\$100,000			39			
	Non-Capital Pro	Nearshore work windows- HPA input	Update work window based on fish utilization assessments	I	Regulatory Mechanisms,	?	Nearshore (Beaches),	Chinook		Feasibility Pending							12/31/2010	WDFW	\$0			40			
	Non-Capital Pro	LID Implementation	Implement LID techniques decrease development impacts	I	Water Quality, Excessive	?	Upland	Chinook		Design Completed							12/31/2009	San Juan County	\$25,000			82			

	Non-Capital Project	SMP Update	The Lead Entity actively participates in ongoing multiple	I	Loss of Habitat,	?	Riparian, Nearshore	nearshore protection	Chinook	Cutthroat (Secondary)	not started						12/31/2012	San Juan County	\$50,000			93	
	Non-Capital Project	Feeder Bluff Mapping and Application of Results	Currently in San Juan County feeder bluffs are not mapped.	I	Loss of Habitat,	?	Nearshore (Beaches),	nearshore protection	Chinook	Chum (Secondary)	Design Completed	mapping	\$90,000	historic and current	\$60,000		12/31/2010	Friends of the San Juans, San	\$150,000		pending	92	
	Non-Capital Project	class one beach inventory	Complete mapping and quality assessment of class one beaches	I	Biological Processes,	?	Nearshore (Beaches)	nearshore protection	Chinook		Design Completed			complete mapping			12/31/2009	San Juan County Marine	\$65,000			52	
	Non-Capital Project	Expansion of WRIA 2 Watershed Inventory (Phase II)	WFC will continue the cutthroat distribution and watertype	I	Riparian Areas & LWD	?	Instream	Riparian: Forestry	Cutthroat	Chinook (Secondary)	Feasibility Pending	GIS/Field work	\$150,000				5/30/2012	Wild Fish Conservancy	\$150,000	\$22,500	PSAR or SRFB	91	
	Non-Capital Project	SJI - Education and Technical Assistance to Improve Protection	San Juan County residents and decision makers need consistent	I	Riparian Areas & LWD	?	Upland, Riparian,	upland and nearshore	Chinook	Cutthroat (Secondary)	Design Completed						12/31/2019	San Juan Initiative	\$75,000			94	
	Non-Capital Project	SJI - Improving Enforcement	Create a partnership between Dept of Ecology, Dept of Fish and	I	Loss of Habitat,	?	Nearshore (Beaches),	nearshore protection	Chinook	Cutthroat (Secondary)	Design Completed						12/31/2020	San Juan Initiative	\$35,000			95	
	Non-Capital Project	SJI - Improving Incentives for Shoreline Protection	Develop a pilot project at the San Juan Preservation Trust to	I	Riparian Areas & LWD	?	Upland, Riparian,	nearshore protection	Chinook	Cutthroat (Secondary)	Feasibility Completed						12/31/2010	San Juan Preservation	\$75,000	\$37,500	CSF	96	
	Non-Capital Project	Incorporate drainage basin planning in Comp Plan/ordinance	Assist county planning process	I	Stream Flow, Water Quality,	?	Upland	water quality	Cutthroat		Conceptual						12/31/2009	San Juan County	\$0			41	
	Non-Capital Project	Synthesis / Analysis of Data Gaps	White papers on 16 topic areas and local issues. - List compiled	I	Regulatory Mechanisms,	?	N/A	upland and nearshore	Chinook	Cutthroat (Secondary)	Design Completed	n/a	\$0	add'l white papers	\$24,250	add'l white papers	\$24,250	12/31/2012	San Juan County Lead	\$48,500	\$0	tbd	38
	Non-Capital Project	Spartina Control	Control of the few invasive occurrences	I	Loss of Habitat,	?	Upland, Nearshore	nearshore protection	Chinook	Cutthroat (Secondary)	Design Completed						12/31/2016	San Juan County	\$11,000	\$11,000	San Juan Co	56	
	Non-Capital Project	Derelict Vessel Removal Program	DNR, SJC partnership to remove derelict vessels from local waters	I	Water Quality	?	Nearshore (Beaches),	nearshore protection	Chinook		Design Completed						12/31/2015	San Juan County	\$30,000	\$0	DNR	98	
Plan Implementation & Coordination	Non-Capital Project	WRIA 2 Salmon Recovery Plan - Salmon recovery coordination/implementation	In San Juan County / WRIA2 protection of high quality		N/A	?	N/A	coordination	Chinook		ongoing	ongoing	\$102,000	ongoing	\$105,000	ongoing	\$108,000	12/31/2055	San Juan County Lead	\$315,000	\$0	RCO, EPA, PS	84
	Non-Capital Project	water quality and watershed coordination group (Water Table)	Participate in and help facilitate informal Water Table group		Water Quality	?	N/A	coordination	Chinook		Design Completed	group meetings,	\$0	group meetings,	\$0	group meetings,	\$0	12/31/2012	San Juan Islands	\$0			85
	Non-Capital Project	Education and Outreach Coordinator	Coordinates outreach messages, implements outreach plans,		N/A	?	N/A	coordination	Chinook	Cutthroat (Secondary)	ongoing	ongoing	\$10,000	ongoing	\$11,000	ongoing	\$12,000	12/31/2009	San Juan County Lead	\$33,000	\$16,500	LE, MRC	73
Outreach & Education	Non-Capital Project	Coordinate educational resources and stewardship messaging	Coordinated education on the protection of marine resources,	I	Riparian Areas & LWD	?	Upland, Nearshore	coordination	Chinook		Conceptual						12/31/2016	San Juan County Marine	\$0			77	
	Non-Capital Project	MSA Plan Outreach	Education and outreach to public on Marine Stewardship Area	I	Water Quality, Loss of	?	N/A	education, develop	Chinook		Design Completed						12/31/2057	San Juan County Marine	\$45,000			75	
	Non-Capital Project	Watershed landowner education	Work with specific riparian landowners within San Juan	I	Riparian Areas & LWD	?	Upland, Riparian,	landowner technical	Chum, Chinook,	Killer Whale, Bald Eagle	Feasibility Pending	implementing BMPs	\$60,000	implementing BMPs	\$61,000	implementing BMPs	\$62,000	12/31/2012	San Juan Islands	\$245,000	\$60,000	PSP Action A	69
	Non-Capital Project	Water in San Juan County Realtor Workshop	Classes with realtors regarding water protection	I	Water Quality, Loss of	?	Upland, Riparian,	upland and nearshore	Chinook	Cutthroat (Secondary)	Design Completed	course complete					12/31/2012	Friends of the San Juans	\$6,000		MRC, realtor	70	
	Non-Capital Project	Salmon-in-the-schools	Juvenile salmon ecology for K-12	I	Water Quality, Biological	?	N/A	education, develop	Chinook	Cutthroat (Secondary)	Design Completed						12/31/2016	San Juan Nature	\$1,000			71	
	Non-Capital Project	Outdoor Classroom	Juvenile salmon ecology	I	Biological Processes	?	N/A	education, develop	Chinook	Cutthroat (Secondary)	Design Completed						12/31/2016	San Juan Nature	\$1,000			72	
	Non-Capital Project	Shoreline Stewardship Guide for landowners	Update guide, mail to all shoreline property owners in SJC	I	Water Quality, Loss of	?	Nearshore (Beaches)	nearshore protection	Chinook		Design Completed						6/1/2007	Friends of the San Juans				76	
	Non-Capital Project	Landowner conservation motivation	Encourage salmon-friendly and eco-friendly actions on property	I	Water Quality, Loss of	?	Upland	upland and nearshore	Chinook		Conceptual						12/31/2016	Various				81	
	Non-Capital Project	Boater Education	Educate boaters on Marine Stewardship and whale wise	I	Biological Processes	?	N/A	nearshore protection	Chinook		Design Completed						12/31/2016	The Whale Museum	\$3,000			78	
	Non-Capital Project	Oil Spill Education	Education regarding risks and impacts of potential oil spills	I	Water Quality, Loss of	?	N/A	nearshore protection	Chinook		Conceptual						12/31/2019	IOSA				79	
Flow Protection	Non-Capital Project	Secure instream flows for fish and wildlife	Acquire water rights as needed to assure adequate flows	I	Stream Flow	?	Instream	instream flow	Coho		Conceptual							WA Water Trust	\$120,000	\$18,000	SRFB, PSAR	44	
	Non-Capital Project	Model and restore stream flows	Determine sources and fates of water in streams, identify ways	II	Stream Flow, Altered	?	Instream	restore instream	Coho		Conceptual							WA Water Trust	\$50,000	\$7,500	SRFB, PSAR	43	
Monitoring	Non-Capital Project	MSA Monitoring Plan	The Marine Resources Committee (MRC) has drafted a monitoring		Water Quality, Loss of	?	Nearshore (Beaches)	monitoring habitat,	Chinook								12/31/2009	San Juan County Marine	\$25,000			46	
	Non-Capital Project	Friends of the San Juans Marine Water Quality Monitoring Program	Friends of the San Juans Marine Water Quality Monitoring Program		Water Quality	?	N/A	monitoring water	Chinook								12/31/2014	Friends of the San Juans	\$7,500			59	
	Non-Capital Project	Contaminant monitoring in freshwater and nearshore habitats	Identify and reduce contaminant inputs		Water Quality	?	Upland	monitoring water	Chinook		Conceptual	n/a	0	assessment /testing	\$55,000	design outreach	\$35,000	12/31/2012	KWIAHT	\$100,000	\$15,000	PSAR	50
	Non-Capital Project	Eelgrass Distribution Monitoring in Westcott and Garrison Bays	For the last 5 years, FRIENDS has been working collaboratively to		Water Quality, Biological	?	Nearshore (Embayment)	monitoring eelgrass	Chinook								12/31/2010	Friends of the San Juans	\$6,500		Patagonia	51	
Other (Hatchery)	Non-Capital Project	Ecological interactions of hatchery and wild salmon in marine habitats	May affect size, timing, quantity of releases at hatcheries		Predation/Competition/Dis	?	Nearshore (Beaches)	competition	Chinook		Conceptual						12/31/2012	tbd	\$30,000			64	
	Non-Capital Project	Greenwood Springs Chinook hatchery	Pathways juveniles use after release, interactions with wild		Predation/Competition/Dis	?	Nearshore (Beaches),	competition	Chinook		Conceptual						12/31/2012	Long Live The Kings	\$30,000		PSAR, LLTK	65	
<b>Total Non-Capital Need</b>																			<b>\$9,277,038</b>				