

**ISLAND COUNTY
SHORELINE MASTER PROGRAM
Shoreline Restoration Plan**



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ABBREVIATIONS

CIPCapital Improvement Program
OHWMOrdinary High Water Mark
RCWRevised Code of Washington
SMAShoreline Management Act
SMPShoreline Master Program
WACWashington Administrative Code

SECTION 1: INTRODUCTION AND BACKGROUND

Shoreline Jurisdiction

In Island County, “shorelines of the state” consist of approximately 196 miles of marine shorelines and 11 miles of lake shorelines for a total of 207 linear miles of shoreline. The marine shorelines include the two major islands of Whidbey and Camano, and seven small islands, most of which are undeveloped and unoccupied. The marine shorelines of Island County are located within the north Puget Sound and at the eastern end of the Strait of Juan de Fuca. Collectively, these marine waters are part of the Salish Sea, which also includes the Strait of Georgia to the north of Island County, extending into British Columbia. The County’s shoreline jurisdiction excludes the cities of Oak Harbor, Coupeville and Langley. Island County does not have any streams with sufficient flow (20 cubic feet per second of mean annual flow) to be within the shoreline jurisdiction.

The state Shoreline Management Act designates some shorelines as “shorelines of statewide significance.” In Island County, these include the open water areas of Puget Sound lying seaward from the line of extreme low tide to the center of the channel corresponding to the County boundary. In addition, shorelines along Skagit Bay and the adjacent area extending from Brown Point to Yokeko Point (RCW 90.58.030 (2e) (ii)(D)) are defined as “shorelines of statewide significance” from the line of extreme low tide landward to the ordinary high water mark (OHWM), as well as the adjacent 200 feet landward of the OHWM. For these shorelines, agencies are required to consider statewide interests over local interests when regulating use and development of the shoreline. This includes consideration of ecological resources of statewide significance, accommodation of priority uses such as commercial shellfish beds and navigable harbors, and provision for citizens of the state to visit public shorelines with special scenic qualities or cultural or recreational opportunities.

State Requirements

The State has directed local governments to develop SMP provisions “...to achieve overall improvements in shoreline ecological functions over time when compared to the status upon adoption of the master program.” This overarching goal is accomplished primarily through two distinct objectives:

- **Protection** (and enhancement) of existing shoreline functions through regulations and mitigation requirements to ensure “no net loss” of ecological functions from baseline environmental conditions; and
- **Restoration** of shoreline ecological functions that have been impaired from past development practices or alterations.

The figure below illustrates the role of the SMP update in achieving no net loss both through a combination of mitigation measures and restoration projects.

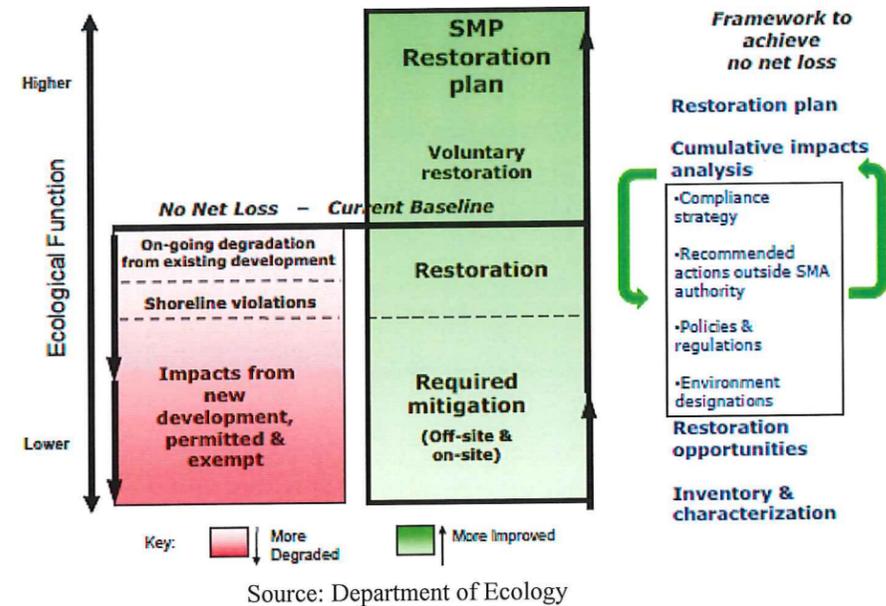


Figure 1: Achieving No Net Loss of Ecological Functions

The concept of no net loss of shoreline ecological function is embedded in the SMA and in the goals, policies and governing principles of the shoreline guidelines. The State’s general policy goals for shorelines of the state include the “protection and restoration of ecological functions of shoreline natural resources.” This goal derives from the SMA, which states, “permitted uses in the shoreline shall be designed and conducted in a manner that minimizes insofar as practical, any resultant damage to the ecology and environment of the shoreline area.” The governing principles of the guidelines further clarify that protection of shoreline ecological functions is accomplished through the following (WAC 173-26-186):

- a) Meaningful understanding of the current shoreline ecological conditions;
- b) Regulations and mitigation standards that ensure that permitted developments do not cause a net loss of ecological functions;
- c) Regulations that ensure exempt developments in the aggregate do not result in net loss of ecological functions;
- d) Policy framework for restoring and enhancing ecologically impaired shorelines;
- e) Regulations and programs that fairly allocate the burden of mitigating cumulative impacts among development opportunities; and
- f) Incentives or voluntary measures designed to restore, enhance or protect ecological functions.

The restoration component of Island County's Shoreline Master Program (SMP) is generally focused on voluntary approaches using mechanisms such as: offering economic incentives; seeking partnerships between private, public, and non-profit funding sources; utilizing volunteer labor and other programs that can contribute to a no net loss strategy. Moreover, the program framework developed for these non-compensatory mitigation projects can also be applied to compensatory mitigation projects. In this way, all efforts to improve ecosystem functioning are coordinated and will be planned and designed to work together.

Defining Restoration

There are numerous definitions for "restoration" in scientific and regulatory publications. Specific elements of these definitions often differ, but the core element of repairing damage to an existing, degraded ecosystem remains consistent. In the SMP context, the WAC defines "restoration" or "ecological restoration" as:

"...the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions" (WAC 173-26-020(27)).

Using the WAC definition of restoration in regards to state shorelines, it is clear the effort should be focused on specific shoreline areas where natural ecological functions have been impaired or degraded. The emphasis in the WAC is to achieve overall improvement in existing shoreline processes or functions, if these functions are impaired. Therefore, the goal is not to restore historically natural conditions, but rather to improve on existing, degraded conditions. In this context, restoration can be broadly implemented through a combination of programmatic measures (such as surface water management; water quality improvement; public education) and site-specific projects (such as bulkhead replacement and or riparian plantings). The guidelines do not state that local programs should require individual permittees to restore past damages to an ecosystem as a condition of a permit for new development. For these reasons, restoration planning focuses on the county as a whole rather than parcel-by-parcel.

Key Elements of Restoration Planning in the SMP Update Process

The State guidelines provide six key elements for shoreline restoration planning as part of a local jurisdiction's shoreline master program, as outlined in WAC 173-26-201(2)(f). Table 1 summarizes how these elements are addressed in the organization and content of this report.

Table 1 Restoration Planning Structure

Key Elements for the Shoreline Restoration Planning Process WAC 173-26-201(2)(f)	Section in this Report
Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration.	Sections 2 and 4
Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions.	Section 4
Identify existing and ongoing projects and programs that are currently being implemented that are designed to contribute to local restoration goals (such as capital improvement programs (CIPs) and watershed planning efforts (WRIA habitat/recovery plans).	Section 3
Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs.	Sections 4 and 5
Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals.	Section 6
Provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals (e.g., monitoring of restoration project sites).	Section 6

SECTION 2: SUMMARY OF SHORELINE CONDITIONS

Properly functioning habitat is the most cost-effective habitat to protect. Habitats in need of protection within Island County along the coastal shoreline are those areas that still retain a significant portion of their original habitat functions or possess a high potential for re-establishing properly functioning ecological processes. The *Island County Draft Shoreline Inventory and Characterization Report* (ESA, March 2012) identified several coastal wetlands on Whidbey and Camano Islands that are functioning relatively intact, but would benefit from restoration. These shoreline sites are: Grasser’s Lagoon, Twin Lagoons, Harrington Lagoon, Race Lagoon, Cultus Bay, Triangle Cove, Deer Lagoon, and Crockett Lake. For a complete description of ecosystem process and habitat conditions by reach, see Appendix C of the *Island County Draft Shoreline Inventory and Characterization Report* (ESA, March 2012). In addition, Appendix G of the shoreline inventory summarizes the restoration and conservation potentials by reach.

Shoreline restoration planning begins with the identification and assessment of “degraded areas” or areas with missing or impaired ecological functions. Table 2 summarizes the ecosystem process impairments present in Island County shorelines, and broad scale recommendations for actions that the County can take to restore those processes.

Table 2. Summary of Ecosystem Process Impairments and Restoration Recommendations

Ecosystem Process	Causes of Impairment to Ecosystem Process	Scale of Alterations (Basin or Reach)	Restoration Recommendations
Marine Nearshore			
Sediment Generation and Transport	Shoreline stabilization	Approximately 16% of the shoreline has been armored, scattered throughout most reaches of the marine shoreline.	Remove armoring where feasible, and provide incentives for replacing hard armoring with less damaging stabilization methods.
Hydrology	Diking of coastal lagoons and marshes for agriculture and freshwater lakes	Affects specific reaches, only, but over 4,000 acres of marshlands and lagoons have been converted to upland uses and lakes countywide.	Where feasible, restore tidal influence to marshes and lagoons by removing dikes, tide gates, and weirs.
Water Quality	Septic failure, agricultural runoff, sewage and stormwater outfalls, and leaching of creosote from pilings	Although often caused by basin-wide changes such as loss of forest cover, effects on marine shorelines are localized, especially in coves and bays that have limited flushing action from	Enforce County health regulations regarding failing septic systems; Remove derelict structures that may contain hazardous substances, such as creosote treated piles.

Ecosystem Process	Causes of Impairment to Ecosystem Process	Scale of Alterations (Basin or Reach)	Restoration Recommendations
		tides and currents.	
Biological Resources	Numerous species of fish, mammals, birds, and plants are listed as threatened or endangered due to habitat loss or conversion (particularly loss of forest cover and loss of small estuary/saltmarsh habitat), water pollution, and excessive harvest (especially of salmonids).	Alterations are basin-wide, but degree of habitat conversion and loss varies widely among marine reaches.	Protect remaining intact habitat areas; Prioritize restoration of habitats like forage fish spawning, coastal lagoons, and mudflats; Provide incentives for habitat restoration and enhancement; Participate in regional efforts to manage for species recovery.
Freshwater Lakes			
Hydrology	Damming of brackish lakes has converted some lakes fresh water; Extensive loss of forest cover has altered hydrology of most basins.	Damming affects specific lakes; forest cover loss is widespread and affects most lakes.	Consider reconversion of dammed lakes to tidally influenced waters where feasible; Protect wetlands and remaining riparian forest surrounding lakes, streams and wetlands.
Water Quality	Limited data available, but septic failure, agricultural runoff, sewage and stormwater outfalls all contribute to degraded water quality.	Most waterbodies have some impairment, but none are listed on 303(d) list.	Improve enforcement of existing health regulations for septic systems; improve sewage and stormwater systems outfalls; Implement farm conservation planning on agricultural lands to identify specific threats to water quality.
Biological Resources	Clearing of riparian and wetland vegetation for agriculture and development; excessive nutrient input and invasive plants causing eutrophic conditions in some lakes; stream culverts and weirs present fish barriers.	Alterations are basin-wide, but degree of habitat conversion and loss varies widely among lake reaches.	Protect remaining intact riparian forest; Provide incentives for habitat restoration and enhancement; Continue building inventory documentation.

Based on an analysis of the listed degraded characteristics, several general types of restoration activities are planned:

- Removing derelict structures from the intertidal zone
- Restoring tidal connectivity to lagoons and marshes
- Enhancing riparian cover and bluff vegetation
- Manage invasive species
- Increase fish passage

SECTION 3: EXISTING RESTORATION PROGRAMS

A number of local and regional planning efforts have been developed to address water resource management, water quality, and salmon habitat recovery in the County and Puget Sound. In particular, the Puget Sound Nearshore Ecosystem Restoration Project that is coordinated by the Washington Department of Fish and Wildlife and the U.S. Army Corps of Engineers provides regional scientific studies to help identify critical restoration needs and opportunities. Taken together, these existing plans and programs provide a framework of goals, policies, and in some cases, funding mechanisms. The goals, policies, and actions identified in this restoration plan should coordinate and be consistent with this broader framework of conservation and restoration work in the region.

County, state and federal governments, cooperative extensions, community organizations, non-profit organizations, numerous volunteers and private landowners currently work together on many successful shoreline restoration and enhancement projects in Island County. The primary agencies, organizations and groups working on shoreline restoration are described in this section.

Island County

Several departments in Island County including Public Works (Parks), Public Health, Planning and Community Development coordinate to plan, obtain funding, construct, manage and monitor restoration and enhancement projects. Island County also provides staff coordinators for several groups involved with shoreline restoration including the Water Resource Advisory Committee and the Salmon Technical Advisory Group to implement the Water Resource Inventory Area (WRIA) 6 Multi-Species Salmon Recovery Plan. The County also supports the Washington State University Extension programs such as Beach Watchers and Shore Stewards, and the Marine Resources Committee (local chapter of Northwest Straits Commission). These groups conduct research and monitoring of marine areas, as well as education and coordination of

volunteers. They also utilize EPA grants distributed through the Puget Sound Partnership or other state agencies (i.e., Washington State Dept. of Fish and Wildlife) to fund marine restoration projects.

Tulalip Tribes

The Tulalip Tribes natural resource planners and fisheries biologists conduct and share research results and analysis focused on salmon and their habitat. This information provides valuable support for selection of appropriate restoration sites.

Skagit River System Cooperative

The Skagit River System Cooperative (SRSC) provides natural resource management services for the Sauk-Suiattle Indian Tribe and the Swinomish Indian Tribal Community. On behalf of these two sovereign nations, SRSC works to actively improve fisheries management within their usual and accustomed fishing areas focusing on the Skagit and Samish River basins. This organization is the fisheries and environmental services for the Swinomish and Sauk-Suiattle Indian Tribes. SRSC has a long history of identifying, designing, and implementing projects that strive to recover freshwater and estuarine habitat for salmonids. The Restoration program's guiding philosophy is focused first on protecting existing functioning ecosystem processes, and second on recovering landscape processes that are not functioning within an expected natural range of variation. The program's habitat restoration approach is firmly committed to implementing the principles of conservation biology on the landscape scale using both proven and innovative techniques on the site level.

Noxious Weed Control Board

State law requires all landowners (private or agency) to manage weeds on their properties (RCW 17.10.140). The Island County Noxious Weed Control Board oversees county-wide management of noxious weeds in an effort to ultimately prevent establishment of invasive vegetation and preserve native species and habitat. In the aquatic environment, control and eradication of Spartina is a program focus.

Conservation Districts

Guided by the Washington State Conservation Commission, the Whidbey Island Conservation District and the Snohomish Conservation District (Camano Is.) are natural resources assistance agencies that work with farmers and other landowners to promote responsible land use and best management practices to maintain water quality and the environment. In shoreline areas, the Conservation District participates in projects relating to protection, enhancement, restoration planning and implementation.

Whidbey Camano Land Trust

The Whidbey Camano Land Trust, incorporated in 1984 as a nature conservancy non-profit corporation, has a mission to protect Island County's most important natural habitats, scenic vistas and working farms in partnership with landowners and the broader community. The Land Trust works strategically to pursue its mission by implementing a science and community-based Land Protection Priority Plan. The Land Trust protects land by securing, through purchase or donation, conservation easements and fee land ownership. It also assists agencies in their land protection efforts. Protecting tidelands, coastal estuaries and wetlands, forested uplands, feeder bluffs, and public beach access are high protection priorities. The Land Trust's coastal holdings include over 3,300 acres of tidelands, and properties at Indian Point, Dugualla Bay, Admiralty Inlet and Livingston Bay. The Land Trust pursues funding from competitive grant sources, including federal, state and Island County Conservation Futures Funds, as well as land and monetary donations, to protect critical coastal habitats.

Whidbey Audubon Society

The Whidbey Audubon Society works for the protection, restoration and preservation of natural habitat for birds and other wildlife. This non-profit group helps to identify locally important habitats and species along the shoreline for protection and restoration. They assist in monitoring restoration projects for bird usage.

Whidbey Watershed Stewards

Whidbey Watershed Stewards is a non-profit, 501c(3) corporation working with the Island County community to promote watershed stewardship, habitat enhancement, and environmental education for all ages. Whidbey Watershed Stewards promotes nearshore and watershed health by linking water, land, wildlife and people on Whidbey Island through education, research, and restoration. Recognizing that salmon are only one indicator of a healthy Puget Sound, the group has broadened its scope to extend beyond salmon in the local watershed to Puget Sound research and study, landowner assistance, creekside restoration with native plants, and watershed education for adults.

Sound Salmon Solutions

Sound Salmon Solutions (formerly Stilly-Snohomish Fisheries Enhancement Task Force) is a 501 (c) 3 nonprofit corporation consisting of representatives of commercial, tribal and recreational fishing interest groups, conservation organizations, the agricultural community, and local and area businesses. The mission of the group is to ensure the future of salmon in the Stillaguamish and Snohomish River and Island County watersheds. The organization provides educational programs and leads restoration projects along the Skagit and Snohomish rivers. Examples of past restoration projects include large wood placement, riparian planting, livestock fencing, and weed control.

Nature Conservancy

The Nature Conservancy has limited involvement in restoration projects in Island County. They are involved in a current project removing a dike at Livingston Bay on Camano Island.

Existing Island County Shoreline Restoration Projects

The following Table 3 lists a number of on-going or planned shoreline restoration projects in Island County.

Table 3. Island County Shoreline Restoration Projects

Project Name	Project Description	Habitat Type	Project Performance	2013 Activity to be Funded - Scope	2013 Estimated Cost	2014 Activity to be Funded - Scope	2014 Estimated Cost	End Date	Sponsor	Local Share or Other Funding	Source of Funds
Ala Spit Restoration	Restoration of sediment down drift processes to maintain spit habitats and associated pocket estuary	nearshore embayment	Remove 850 feet of riprap to restore natural sediment flow and pocket estuary	Removal of 275 feet of bulkhead; beach nourishment; monitoring	\$220,000	Post construction monitoring	\$10,000	2015	Island County	\$35,000	SRFB; local; Island County; WSU beachwatchers
Spartina Removal Projects	Identification and removal of Spartina spp. county-wide	nearshore embayments	Monitor and remove Spartina where located	monitoring & removal	\$50,000	monitoring & removal	\$50,000	ongoing	IC Weed Control, WDFW	\$60,000	WDFW; Marine Conservation Fund
Cornet Bay Enhancement/ Restoration	Restore/enhance shoreline processes & habitat through removal of creosote bulkhead and shoreline fill; enhancement of eelgrass, marshland and forage fish habitat at Deception Pass State Park	nearshore beaches	2000 linear ft. and 7 acres of wetland	Planting, monitoring and wetland planning efforts	\$50,000	Monitoring, evaluating and reporting of 2012 work and planning of Phase 2 restoration work	\$100,000	2016	Current sponsors are WA SRFB, US FWS, City of Oak Harbor and Island MRC	Complex mix of private and public funding (see source documents for details)	See source documents
Creosote Log & Piling Removal	Identification and removal of creosote debris and derelict creosote pilings from Island County nearshore, particularly in forage fish spawning areas	nearshore beaches	Survey and remove creosote debris; remove 90% of creosote debris from identified areas	removal of creosote debris and pilings	\$20,000	removal of creosote debris and pilings	\$20,000	unknown	WA DNR, Island Co. Marine Resource Committee	\$0	Program not funded - WA DNR
Dugualla Heights Restoration	Restore tidal connectivity to historic pocket estuary, and enhance salt marsh and upland habitats	nearshore embayments	Restore tidal connection to historic pocket estuary of 12 acres intertidal and 13 acres of high marsh and marine riparian area	construction	\$790,000	revegetation and monitoring	\$60,000	2014	Whidbey Island Conservation District; Whidbey Camano Land Trust	\$140,000	SRFB, USFWS, NRCS, others
Livingston Bay Restoration	Acquisitions and conservation easements that provide future restoration opportunities of nearshore processes and functions	nearshore embayments	Conservation easements protecting nearshore habitat and processes	top priority nearshore acquisitions (conservation easements)	\$1,100,000			2016	Whidbey Camano Land Trust	\$225,000	SRFB, USFWS, ESRP
Swan Lake Feasibility Assessment and Neighborhood Outreach	Feasibility assessment of enhancing tidal connectivity and fish passage	nearshore embayments	Complete feasibility study and conduct public outreach	Completion of study and final alternative analysis	\$50,000			2013	Swan Lake Watershed Preservation Group; Skagit Fisheries Enhancement Group	\$25,000	SRFB; County; local
Country Club Lagoon	Feasibility assessment of enhancing fish passage	nearshore embayments	Study to improve feasibility of improving fish passage	assessment of accessibility and feasibility	\$50,000			2013	Tulalip; Island County	\$0	unknown
Crockett Lake	Feasibility assessment of enhancing tidal connectivity and fish passage	nearshore embayments	Feasibility study to determine restoration potential	feasibility study	\$95,000	Design	\$75,000	2014	Wild Fish Conservancy, SRSC; Seattle Lights	\$0	SRFB, ESRP

Project Name	Project Description	Habitat Type	Project Performance	2013 Activity to be Funded - Scope	2013 Estimated Cost	2014 Activity to be Funded - Scope	2014 Estimated Cost	End Date	Sponsor	Local Share or Other Funding	Source of Funds
Camano Island State Park Pocket Estuary Restoration Assessment	improvement of internal hydrologic connectivity and restoration of tidal connectivity	nearshore embayments	Restore 4.4 acres of salt marsh habitat			Outreach, 30% design	\$140,000	2016	Skagit River System Coop, WA State Parks	?	unknown
Dugualla Bay	feasibility assessment of enhancing tidal connectivity and fish passage	nearshore embayments	Feasibility study to determine restoration potential	feasibility study	\$175,000	Design	\$125,000	2014	Navy, SRSC, others	\$0	SRFB, ESRP, PSNERP, NAVY
Penn Cove & Admiralty Inlet Nearshore Water Quality Restoration	integrated protection planning, technical assistance and nearshore water quality remediation implementation	nearshore beaches	91 acre sub-basin water quality improvement	Construction and beginning of monitoring	\$460,000	Monitoring, evaluating and reporting	\$100,000	\$2,014	SeaGrant, WA DOE, Russell Family Foundation, Town of Coupeville	\$127,000	IC MRC, IC Health Department, Town of Coupeville and US Parks (easement)
N. Camano Utsalady Bay	integrated restoration and protection planning, landowner outreach, & technical assistance	nearshore beaches	Perform landowner outreach, and assessment of priority habitats, sites, and properties	feasibility assessment, landowner outreach and fundraising for acquisitions	\$75,000	Restoration feasibility assessment	\$85,000	2015	MRC; Island County	\$10,000	MRC, NOAA, NWSC

SECTION 4: POLICIES, PRIORITIES, AND OPPORTUNITY AREAS

Island County provides for the restoration and enhancement of ecologically impaired areas in a manner that will achieve a net gain in shoreline ecological functions and processes above the baseline conditions. The goal is to re-establish, rehabilitate and otherwise improve impaired shoreline ecological functions and processes through voluntary and incentive-based public and private programs and actions that are consistent with the Island County restoration plan and other approved restoration plans.

Policies:

1. Improve shoreline functions, processes, and values over time through regulatory, voluntary and incentive-based public and private programs and actions that are consistent with the Shoreline Master Program Restoration Plan and other agency adopted restoration plans.
2. Encourage cooperative restoration programs between local, state, and federal public agencies, tribes, non-profit organizations, and landowners.
3. Target restoration and enhancement towards improving Washington Dept. of Fish and Wildlife priority habitat or locally important wildlife species.
4. Ecological restoration activities are encouraged in all shoreline environments and are considered to be consistent with all uses including residential, commercial, and industrial, provided they are designed appropriately.
5. Restoration actions should restore shoreline ecological functions and processes as well as shoreline features and should be targeted toward meeting the needs of endangered, threatened, and regionally important plant, fish, and wildlife species and habitats.
6. Restoration should be integrated with and should support other natural resource management efforts in Island County and in the Puget Sound region.
7. When prioritizing restoration actions, the County should give highest priority to measures that have the greatest chance of reestablishing ecosystem processes and creating self-sustaining habitats.

Priorities:

Nearshore habitat deterioration has been identified as the largest threat to the health of Puget Sound waters (British Columbia/Washington Marine Science Panel 1994). In the

past, eelgrass beds and mudflats were dismissed as wastelands: too wet and salty for farming, too shallow for shipping and suitable only for diking and filling. Today, conversely, muddy shores are known to be the most productive habitat in Puget Sound. Nearshore areas include tidelands--the strip of land between ordinary low water and ordinary high water-- as well as subtidal areas. The tidelands in Island County are part of a very diverse and vital nearshore habitat that provide a rich and abundant source of food and shelter for large numbers of fish and wildlife species. The importance of a habitat area is enhanced if it is contiguous to eelgrass, kelp beds, or bordered by marine riparian vegetation and upland forest.

Restoration opportunities are generally divided into low and high priority projects. High priority habitats include mud flats, marshes, and pocket estuaries. Marshes and pocket estuaries provide shelter from predators, refuge from high-energy waves, and are key areas for food production. High priority projects are those that meet at least some of the following criteria:

- The project would increase functional connectivity or link existing habitats.
- Public property or willing private property owners are involved.
- The project is compatible with adjacent land uses.
- Public support is likely.
- The project has a good likelihood of success based on ecological processes and functions in the watershed.
- The project is likely to be eligible for grant funding and/or partnerships with other agencies or organizations.

Table 4 lists restoration projects using the rating system developed by Cereghino, et alia (2011) for the Puget Sound region. This compilation of potential projects is a preliminary list. At the time these projects are brought forward for action by a sponsor, an evaluation of the comprehensive short and long-term costs and benefits should be prepared and evaluated at the local level.

Table 4 also includes a recommendation for timing of the restoration activity, listed as "short-term" or "long-term." **Short-term** (approximately 1-5 years) restoration projects include those that could be implemented by local landowners and volunteers and that would benefit the areas that are most in need. Short-term restoration efforts include habitat restoration and enhancement efforts in publicly owned areas of the shorelines. These projects could be implemented in the near term, depending on grant cycles and coordination with volunteer and community organizations. **Long-term** (approximately 5-10 years) restoration projects could be those that require coordination with other jurisdictions or that cover larger land areas. These projects may be more difficult to implement and would likely require more planning and permitting.

Table 4. Island County Restoration Opportunity Areas

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
1	EW02	Remove bulkhead and intertidal and backshore fill along Deception Pass State Park shore southwest of 2 piers	Restore sediment supply and transport	Restore	Long Term
2	EW03	Remove approximately 6 derelict piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore	Long Term
3	EW03	Remove approximately 15 derelict piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore	Long Term
4	EW03	Remove rock groin and concrete bulkhead	Restore sediment supply and transport	Restore	Long Term
5	EW04	Remove rock revetment and rock groin covering intertidal and backshore	Restore sediment supply and transport	Restore	Long Term
6	EW04	Remove tidegate, pump system, &riprap to restore channel, tidal wetland, saltmarsh, and beach	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Long Term
7	EW04	Remove approximately 6 derelict piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Short Term
8	EW04	Remove tide gate and outfall & connect large lagoon with Skagit Bay to create estuarine/saltmarsh	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
9	EW04	Remove approximately 15 derelict pilings	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
10	EW07	Remove fill and roadway to restore tidal flow to lagoon.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
11	EW07	Lagoon-Restore tidal flow to reestablish saltmarsh	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
12	EW08	Lagoon-restore tidal flow by widening partially filled inlet	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect	Short Term
13	EW10	Remove probable spartina patch	Restore native vegetation in sand and mud flat habitats	Restore High	Short Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
14	EW10	Restore tidal flow to saltmarsh (S of Race Lagoon) Check road to beach over marsh for connectivity	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect High	Short Term
15	EW11	Recreate inlet and restore portions of partially filled coastal wetland	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
16	EW11	Remove failed bulkhead for upper intertidal and backshore restoration	Restore sediment supply and transport	Restore High	Long Term
17	EW11	Remove pilings and rock fill	Restore sediment supply and transport	Restore High	Long Term
18	EW11	Remove concrete rock fill	Restore sediment supply and transport	Restore High	Long Term
19	EW11	Remove failed boathouse platform w rock	Restore sediment supply and transport	Restore High	Long Term
20	EW11	Restore Lagoon	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect High	Short Term
21	EW11	Remove modification	Restore sediment supply and transport	Restore High	Long Term
22	EW11	Remove dilapidated boathouse and railway	Restore sediment supply and transport	Restore High	Long Term
23	EW11	Remove PVC sheeppile & creosote WPW & fill &house	Restore sediment supply and transport	Restore High	Long Term
24	EW12	Remove failing bulkhead	Restore sediment supply and transport	Restore	Long Term
25	EW12	Remove failing bulkheads	Restore sediment supply and transport	Restore	Long Term
26	EW12	Remove failed pier & fill area w failing bulkhead	Restore sediment supply and transport	Restore	Long Term
27	EW12	Remove failed pier and creosote piles	Restore sediment supply and transport	Enhance High	Long Term
28	EW12	Remove failing bulkheads & derelict piles by creek mouth	Restore sediment supply and transport	Enhance High	Long Term
29	EW13	Remove 6 small rock groins	Restore sediment supply and transport	Enhance High	Long Term
30	EW13	Remove 4 failed bulkhds-1 here 3 to N (good modifications in between)	Restore sediment supply and transport	Restore High	Long Term
31	EW14	Remove waterward failed bulkhead (old) fronting new bulkhead	Restore sediment supply and transport	Restore High	Long Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
32	EW14	Remove concrete bulkhead & fill	Restore sediment supply and transport	Restore High	Long Term
33	EW15	Remove failing wooden bulkhead(1/3creo&away from bluff toe)	Restore sediment supply and transport	Restore High	Long Term
34	EW15	Remove derelict & abandoned creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
35	EW15	Restore Deer Lake Creek mouth across backshore and bch - purchase one lot with small cabin	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Long Term
36	EW15	Remove abandoned creosote piles (~6)	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
37	EW15	Remove abandoned creosote piles (2)	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
38	EW15	Remove abandoned creosote piles (1)	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
39	EW15	Restore backshore marsh vegetation - vegetation appears damaged due to change in hydrology	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
40	EW15	Remove abandoned creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
41	EW15	Remove portion of bulkhead and house immediately north of Glendale Creek to restore good salmon access	Restore sediment supply and transport, Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Long Term
42	EW15	Remove failing wooden groins (some creosote)	Restore sediment supply and transport	Restore High	Long Term
43	EW15	Remove derelict creosote piles (35)	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
44	WW08	Remove creosote piles (4)	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
45	WW08	Remove 12 creosote piles cross shore	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
46	WW08	Remove old wood wall and dilapidated house	Restore sediment supply and transport	Restore High	Long Term
47	WW07	Restore saltwater marsh and allow tidal channel formation in Deer Lagoon	Restore mudflat, sand flat, or other intertidal habitat	Restore High	Long Term
48	WW06	Remove 7 creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
49	WW06	Remove 4 creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
50	WW06	Remove 7 creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
51	WW06	Remove 11 creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
52	WW06	Remove 4 creosote piles	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
53	WW05	Remove 35 creosote piles from failing wall	Restore sediment supply and transport	Restore High	Long Term
54	WW05	Remove 4 creosote piles in subtidal	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
55	WW04	Remove 115 creosote piles old structure in subtidal	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Protect High	Short Term
56	WW02	Remove concrete debris (degrading shoreline armoring) to the south of the row of shoreline residences fronting the shoreline adjacent to Swan Lake.	Restore sediment supply and transport	Restore High	Long Term
57	WW02	Remove tide gate and associated armoring that restricts tidal exchange between Swan Lake and the marine shoreline	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
58	WW02	Remove derelict structures (piles and remnants of pier/boat ramp) along marine shoreline just north of Swan Lake.	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Short Term
59	WW01	Remove concrete rubble from intertidal and bank toe	Restore sediment supply and transport	Restore High	Long Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
60	WW01	Remove concrete rubble revetment	Restore sediment supply and transport	Restore High	Long Term
61	WW01	Remove very long outfall	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
62	CAM11	Remove failed pier and pilings at Camp Grande south of Rocky Point	Restore sediment supply and transport	Restore High	Long Term
63	CAM11	Remove rock groins crossing intertidal at Rocky Pt. to reduce disturbance to littoral drift and potential forage fish spawning habitat. Potential impacts to existing bulkheads may have to be analyzed.	Restore sediment supply and transport	Restore High	Long Term
64	CAM11	Remove 40-50 piles on upper intertidal beach east of Utsalady boat ramp that remain from an old failed bulkhead in potential forage fish spawning area.	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
65	CAM12	Remove derelict boat ramps and marine railways on beach. A number of failed structures cross potential forage fish spawning areas.	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
66	CAM12	Remove 2 pile bulkheads (failed) on upper intertidal within potential forage fish spawning band.	Restore sediment supply and transport	Restore High	Long Term
67	CAM12	Remove failed bulkhead rock from intertidal beach and backshore. Rock is covering substantial portion of potential forage fish spawning band.	Restore sediment supply and transport	Restore High	Long Term
68	CAM01	Remove old piles (50-75) in vicinity of English Boom (4400')	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore	Short Term
69	CAM01	Remove old piles (150-200) along West Pass distributary channel (5600')	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore	Short Term
70	CAM02	Connect and restore channels to saltmarsh to re-establish tidal flow and fish access to saltmarsh. May require dyke extensions.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
71	CAM02	Remove portions of dyke to re-establish better tidal flow and fish access into old saltmarsh (1800')	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term
72	CAM03	Remove intertidal spartina	Restore native vegetation in sand and mud flat habitats	Restore	Long Term
73	CAM03	Remove portions of dyke to re-introduce tidal flow to old saltmarsh (1800')	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect High	Short Term
74	CAM03	Open up mouth of inlet to coastal lagoon to increase fish access and tidal flushing. Currently a tidegate and riprap are present in inlet.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect High	Short Term
75	CAM04	Remove fill and boathouses. Examine tidal flow under wooden bridge and alter bridge if tidal flow is impeded into marsh.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Protect High	Short Term
76	CAM04	Remove bulkheads from intertidal beach as possible with failure or redevelopment (2400')	Restore sediment supply and transport	Restore High	Long Term
77	CAM06	Remove or move landward pile bulkhead that extends well waterward of surrounding bulkheads onto intertidal beach.	Restore sediment supply and transport	Restore	Long Term
78	CAM07	Remove failed and failing pile bulkheads on upper intertidal immediately north of large intertidal fill south of Mabana.	Restore sediment supply and transport	Restore	Long Term
79	CAM07	Remove failed pile bulkhead over upper intertidal beach.	Restore sediment supply and transport	Restore	Long Term
80	CAM07	Remove large upper intertidal pile bulkhead and fill area near "Camp Diana" that contains 2 stairway landings and extends well into intertidal.	Restore sediment supply and transport	Restore	Long Term
81	CAM07	Remove large fill area and pile bulkhead that extends over the intertidal beach.	Restore sediment supply and transport	Restore	Long Term
82	CAM08	Remove creosote pile beach access stairway bulkhead at north-central portion of Camano Island State Park.	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term

Map 2 Label	Reach Number	Note	Primary Benefits to Ecosystem Processes or Functions	PSNERP/Cereghino Rating	Timeframe
83	CAM08	Remove creosote pile beach access stairway bulkhead at northern portion of Camano Island State Park.	Restore mudflat, sand flat, or other intertidal habitat; remove contaminants	Restore High	Long Term
84	CAM08	Remove upper intertidal/ backshore bulkheads at northern Saratoga Shores to uncover potential forage fish spawning and backshore vegetation areas.	Restore sediment supply and transport	Restore High	Long Term
85	CAM09	Remove vertical face bulkhead at the south beach at Indian Beach from intertidal beach and move artificial boundary between upland and beach landward.	Restore sediment supply and transport	Restore High	Long Term
86	CAM09	Daylight creek that apparently flows through a culvert under a small house and improve access under road.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Long Term
87	CAM09	Remove rock and large debris from upper half of intertidal, from failed bulkhead, to remove impediment to net shore-drift and uncover potential forage fish spawning habitat	Restore sediment supply and transport	Restore High	Long Term
88	CAM10	Restore tidal inlet & saltmarsh complex at Onamac Point. May have been partially filled; channel history should be researched for feasibility of re-establishing fish access.	Restore tidal flow, exchange of aquatic organisms, detritus input/export	Restore High	Short Term

SECTION 5: IMPLEMENTATION STRATEGIES AND FUNDING SOURCES

As a long-range planning effort without dedicated funding, it is difficult to articulate a firm strategy for accomplishing the goals of this plan. Under the Shoreline Management Act, the County is required to review, and amend if necessary its SMP once every eight years. At the time of the update, the County is required to report progress toward meeting its restoration goals. However, there is no requirement or timeframe for specifically *implementing* the Restoration Plan.

The County intends to adhere as closely as possible to the timelines and benchmarks described in Section 6, depending on interdepartmental coordination and the availability of staff and grant funding. One way the County can leverage its resources for restoration projects is to include measures such as vegetation enhancement or the addition of in-water habitat features with recreation improvements or public works projects. Another key strategy is to partner with other agencies and organizations on large or complex projects that have regional benefits to salmon recovery.

Projects will be selected where we have significant scientific knowledge and local commitment to restoration of key nearshore environments. Successful restoration projects require willing landowners, scientific justification, and the assurance of efficient use of public resources and grant dollars. Where data or funding gaps exist, it is important to work cooperatively and strategically with local and regional partners to fill these gaps. Partial restoration should be considered when full restoration is not feasible.

Sources of Funding and Technical Assistance

A number of state and federal agencies, such as the Environmental Protection Agency's National Estuary Program, the Puget Sound Partnership, and Washington State Department of Fish and Wildlife provide many opportunities for grant funding of restoration and preservation projects. In addition, efforts related to salmon recovery, including the Estuarine and Salmon Restoration Program (ESRP) and the Salmon Recovery Funding Board (SRFB), provide grants for shoreline restoration. Technical assistance is also available for programs such as buffer planting on agricultural lands.

Voluntary Restoration on Private Lands

Much of the shoreline area in Island County is privately-owned property; therefore, public outreach and voluntary restoration actions are a key component of the success of this plan. Private property owners often serve as the best stewards for their land and will voluntarily enhance or restore conditions. As stated in Section 1, the Shoreline Restoration Plan is a non-regulatory and voluntary program undertaken by the County and environmental partners willing to improve habitat and existing conditions within the shoreline jurisdiction.

Voluntary actions may include citizens assisting a public agency or stewardship group with plantings or other measures on public lands such as parks or open space. Voluntary actions may also include restoration undertaken on private properties by land owners to improve habitat and water quality or stabilize shoreline bluffs. This section addresses the types of actions that a private property owner can undertake to restore conditions in the shoreline jurisdiction.

Voluntary restoration on private properties may range from minor projects that do not require permitting in and of themselves (such as removal of weeds) to larger-scale improvements that require permit approval (such as soft shore armoring). Expert assistance is required to design and permit large-scale restoration projects on private properties. Expertise needed may include engineering, fisheries biology, wetland or wildlife science or geotechnical. Minor restoration may not require expert assistance and can be accomplished with general information provided by the County or state government.

The following web sites provide information for shoreline land owners for voluntary restoration actions:

- Water quality – aquatic plants, algae and lakes:
(<http://www.ecy.wa.gov/programs/wq/links/plants.html>)
- Protecting Your Stream - Ten Actions for Streamside Property Owners (WSU Extension Office, Clark County, 2008) (available at:
<http://clark.wsu.edu/volunteer/ws/faqs.html>)
- Washington Department of Fish and Wildlife Backyard Wildlife Sanctuary Program (<http://wdfw.wa.gov/living/backyard/>)
- National Wildlife Federation Garden for Wildlife Program
(<http://www.nwf.org/Get-Outside/Outdoor-Activities/Garden-for-Wildlife.aspx>)

Examples of restoration actions that private property owners can implement are listed below. These actions typically do not require special equipment or expertise but can have significant benefits to shoreline functions, especially if undertaken by a community or group of landowners.

1. Maintain bluff vegetation.

Plant root systems bind the soil particles together and plant foliage can cover the surface of the ground, thereby adding to slope stability and helping prevent erosion and landslides in steeply sloped areas of the shoreline.

2. Remove invasive non-native plants and plant native trees and shrubs.

Invasive plants like Himalayan blackberry, knotweed, English ivy, reed canary grass, morning glory, holly, and butterfly bush can out-compete native vegetation and negatively impact shoreline habitats.

3. Remove debris, refuse and derelict structures from the shoreline.

Removing litter and pet waste from the shorelines and beaches helps keep them safer for people, pets, birds, fish and wildlife. Removal of creosote-treated wood and other man-made debris improves the health of the shoreline for fish and wildlife as well as the long-term quality of water.

4. Reduce use of fertilizers and pesticides.

Minimizing use of fertilizers and pesticides within 200 feet of shorelines will improve water quality, reduce the risk of algae and nuisance aquatic plants (especially in lakes) and reduce adverse impacts to aquatic habitats.

Challenges to Implementation

There are a number of potential complicating factors between the development of a shoreline restoration plan and on-the-ground implementation of its programs and projects. Some of these challenges are briefly summarized below:

- Lack of funding: Designing, carrying out, and monitoring the success of restoration efforts can be an expensive undertaking, particularly at larger (e.g., watershed or reach) scales. In general, funding for restoration is limited and competition for funds extensive.
- Landowner participation: Landowners in areas identified as priorities for restoration efforts may be unwilling or unable to participate in those efforts, while others may be willing to participate in future projects.
- Project permitting: Obtaining necessary permits from local, state, and federal regulatory agencies can require substantial time and effort. Although encouraged and allowed by the SMP, complicated restoration projects may take a year or more to permit.
- Climate change: Changes in regional weather conditions have the potential to dramatically alter seasonal storms and flooding. Depending on the scale of change and time period over which changes occur, restoration priorities could shift substantially within a relatively short period of time.

SECTION 6: TIMELINES AND BENCHMARKS

A suggested timeline for implementation of this restoration plan is as follows. The accomplishment of this timeline depends largely on the availability of funding.

Within 2 years of adoption of this plan:

- Identify at least six restoration projects and assign staff to establish a schedule and explore funding options and partnerships.
- Assign staff and dedicate funding to a shoreline public education program and hold a public workshop on voluntary restoration measures.
- Establish a County shoreline restoration program web page.

Within 5 years of adoption of this plan:

- Complete at least two of the identified restoration projects.
- Hold at least two public workshops on voluntary shoreline restoration measures.

Within 7 years of adoption of this plan:

- Complete a feasibility study and begin conceptual design for at least one of the long-term restoration projects identified in Table 5.

Over time, restoration efforts must be evaluated against a set of benchmarks to determine if adequate progress is being made. One way to assess progress will be to track and report the following general benchmarks:

- Acres of shoreline enhancement (i.e., restore pocket estuaries)
- Acres of wetland restored in the shoreline jurisdiction
- Acres of native vegetation planted
- Performance in meeting water quality criteria as measured in the state water quality assessment
- Number of restoration actions implemented in conjunction with other project partners

More specific benchmarks should be developed for specific projects. For example, the benchmarks for a riparian revegetation project could include reduction in cover of non-native plants, survival of installed plants, and increase in cover of native plants along the shoreline.

REFERENCES

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- Washington State Department of Health. Marine Recovery Area Guidance: Supplemental to the On-site Sewage System Management Plan Guidance for the Twelve Puget Sound Counties. DOH Publication #333-130. Oct. 2006.
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APPENDIX A. SOURCES OF FUNDING AND TECHNICAL ASSISTANCE

A variety of outside funding sources are available for restoration projects in the Puget Sound basin. Funding opportunities have generally increased since the implementation of Governor Gregoire's Puget Sound Initiative in 2005, though the process by which organizations are able to obtain funds is typically quite competitive. Sources listed here do not represent an exhaustive list of potential funding opportunities, but are meant to provide an overview of the types of opportunities available.

Washington Department of Fish & Wildlife (WDFW)

600 Capitol Way North
Olympia, WA 98501-1091
360-902-2806

Grant programs administered by WDFW are described below.

- *Aquatic Lands Enhancement Account (ALEA) Volunteer Cooperative Projects Program:* The WDFW accepts grant applications from individuals and volunteer groups conducting local projects to benefit fish and wildlife. Grants have ranged from \$300 to \$75,000 in past years to help volunteers pay for materials necessary for projects approved by the agency. Funding cannot be used for wages or benefits. Examples of past projects include habitat restoration, improving access to fish and wildlife areas for disabled people, fish and wildlife research, public education and fish-rearing projects that can benefit the public.
- *Estuarine and Salmon Restoration Program:* The Puget Sound Marine and Nearshore Protection and Restoration Grant Program supports implementation of the Puget Sound Action Agenda and the US Environmental Protection Agency's (EPA) national goals for Puget Sound. EPA distributes federal funding through the National Estuary Program (NEP) to support Puget Sound protection and restoration work. Most of the funds are used for financial assistance to state, local and Tribal governments for their efforts to implement the Puget Sound Action Agenda. The EPA selected WDFW and WADNR to receive and strategically invest funding for "Marine and Nearshore Protection and Restoration." Most of these funds will be invested in competitively selected projects led by other entities, such as local governments. To date, EPA has allocated approximately \$8.5 million to the Grant Program.
- *Landowner Incentive Program:* The Landowner Incentive Program (LIP) is a competitive grant program designed to provide financial assistance to private landowners for the protection, enhancement or restoration of habitat to benefit species at risk on privately owned lands. At risk species depend on specific ecosystems for survival. These ecosystems include riparian areas, wetlands, oak woodlands, prairies and grasslands, shrub steppe and nearshore environments. Through Washington's LIP, individual landowners are eligible to apply for up to \$50,000 in assistance. In addition, \$50,000 is typically set aside for small grants. Any individual applying for these small grant funds may apply for up to \$5,000. A 25% non-federal contribution is required, which may include cash and/or in-kind (labor, machinery, materials) contribution.

National Fish and Wildlife Foundation

1120 Connecticut Avenue, NW, #900
Washington, DC 20036
Kathleen Pickering 202-857-0166
www.nfwf.org

Non-profit organizations, local, state or federal government agencies are eligible to apply for funds for community-based projects that improve and restore native salmon habitat, remove barriers to fish passage, or for the acquisition of land/conservation easements on private lands where the habitat is critical to salmon species. Specific grant programs are listed below.

- **Bring Back the Natives: A Public-Private Partnership for Restoring Populations of Native Aquatic Species:** The Bring Back the Natives initiative (BBN) funds on-the-ground efforts to restore native aquatic species to their historic range. Projects should involve partnerships between communities, agencies, private landowners, and organizations that seek to rehabilitate streamside and watershed habitats. Projects should focus on habitat needs of species such as fish, invertebrates, and amphibians that originally inhabited the waterways across the country. Twelve to fifteen grants averaging \$60,000 are awarded annually.
- **Five-Star Restoration Matching Grants Program:** The Five-Star Restoration Program provides modest financial assistance on a competitive basis to support community-based wetland, riparian and coastal habitat restoration projects that build diverse partnerships and foster local natural resource stewardship through education, outreach and training activities.
- **The Migratory Bird Conservancy:** The MBC will fund projects that directly address conservation of priority bird habitats in the western hemisphere. Acquisition, restoration, and improved management of habitats are program priorities. Education, research, and monitoring will be considered only as components of actual habitat conservation projects.
- **Community Salmon Fund:** NFWF has established local partnerships throughout Washington State through the Community Salmon Fund program to engage landowners, community groups, tribes, and businesses in stimulating smaller-scale, community-oriented habitat restoration and protection projects to aid in salmon recovery. Grants made under this program are administered by NFWF. There are currently three Community Salmon Fund partnership programs. NFWF has partnered with the Washington State Salmon Recovery Funding Board (SRFB) to administer a statewide Community Salmon Fund program that is coordinated with the individual Lead Entity groups. In addition to this SRFB Community Salmon Fund program, NFWF has partnered with both King and Pierce Counties to administer county-specific Community Salmon Fund programs in those counties.

Salmon Recovery Funding Board (SRFB)

Lead Entity Coordinator: Mary Jorgensen; WRIA 6 Dawn Pucci (360) 678-7916
(206) 296-8067
mary.jorgensen@metrokc.gov

The Salmon Recovery Funding Board supports salmon recovery by funding habitat protection and restoration projects. It also supports related programs and activities that produce sustainable and measurable benefits for fish and their habitat. SRFB distributes funds through two grant programs: SRFB grants, and Family Forest Fish Passage Program grants. The grants from SRFB range from \$10,000 to nearly \$900,000. They have been awarded to organizations in 28 counties for work ranging from planting trees along streams to cool the water for salmon, to replacing culverts that prevent salmon from migrating to spawning habitat, to restoring entire floodplains.

Depending on the grant program, eligible applicants may include municipal subdivisions (cities, towns, counties, and special districts such as port, conservation, utility, park and recreation, and school), tribal governments, state agencies, nonprofit organizations, regional fisheries enhancement groups, and private landowners. To be considered for funding, projects must be operated and maintained in perpetuity for the purposes for which funding is sought. All projects require lead entity approval and must be a high priority in the lead entity strategy or regional recovery plan.

Grants are awarded by the Salmon Recovery Funding Board based on a public, competitive process that weighs the merits of proposed projects against established program criteria.

NOAA Restoration Center Community-based Restoration Program

Northwest Region
Jennifer Steger, Director
Jennifer.Steger@noaa.gov
<http://www.nmfs.noaa.gov/>

The NOAA Community-based Restoration Program (CRP) is a financial and technical assistance program that helps communities implement restoration projects. Specific opportunities are listed below.

- *NOAA CRP 3-Year Partnership Grants:* These grants fund national and regional habitat restoration partnerships for up to 3 years that provide sub awards for individual grass-roots restoration projects. Typical awards range from \$100,000 to \$2,000,000.
- *NOAA CRP Project Grants:* These grants fund grass-roots marine and coastal habitat restoration projects that will benefit anadromous fish species, commercial and recreational resources, and endangered and threatened species. Typical awards range from \$30,000 to \$250,000.

- *American Sportfishing Association's FishAmerica Foundation Grants:* Since 1998, NOAA CRP has partnered with the FishAmerica Foundation to provide funding for fisheries habitat restoration projects nationwide. Grants will fund marine and anadromous fish habitat restoration projects that benefit recreationally fished species. Typical awards range from \$5,000 to \$50,000.
- *National Fish & Wildlife Foundation/National Association of Counties Coastal Counties Restoration Initiative:* In partnership with NOAA CRP, this grant program funds innovative, high quality county-led or supported projects that support wetland, riparian and coastal habitat restoration projects. Typical awards range from \$25,000 to \$100,000.

Washington State Department of Ecology

Post Office Box 47600

Olympia, Washington 98504-7600

jrus461@ecy.wa.gov

www.ecy.wa.gov/programs/wq/plants/grants/index.html

Grant programs administered by Washington State Department of Ecology are described below.

- **Water Quality Program:** The Department of Ecology's Water Quality Program administers three major funding programs that provide low-interest loans and grants for projects that protect and improve water quality in Washington State. Ecology acts in partnership with state agencies, local governments, and Indian tribes by providing financial and administrative support for their water quality efforts. As much as possible, Ecology manages the three programs as one; there is one funding cycle, application form, and offer list. The three programs are: The Centennial Clean Water Fund, The State Revolving Loan Fund (SRF), and The Section 319 Nonpoint Source Grants Program (Section 319). Local governments, Native American tribes, special purpose districts, and non-profit groups are eligible for funding. Grants and loans are available for point source and nonpoint source projects. This includes, but is not limited to, treatment facilities, stream and salmon habitat restoration, and water quality monitoring.
- **Coastal Protection Fund:** This account is funded primarily by oil spill penalties levied against responsible parties. Restoration efforts undertaken with these funds are diverse and include fish barrier removal, and environmental education projects.
- **Coastal Zone Management Administration/Implementation Awards:** This program assists states in implementing and enhancing Coastal Zone Management (CZM) programs that have been approved by the Secretary of Commerce. Funds are available for projects in areas such as coastal wetlands management and protection, natural hazards management, public access improvements, reduction of marine debris, assessment of impacts of coastal growth and development,

special area management planning, regional management issues, and demonstration projects with potential to improve coastal zone management.

Washington Department of Transportation (WSDOT)

City Fish Passage Grant Program

Cliff Hall
(360) 705-7499
hallcli@wsdot.wa.gov

The City Fish Passage Barrier Removal and Habitat Restoration Grant Program provides \$2 million to be used towards City fish passage barrier removal projects, with complementing habitat restoration and stormwater components. The intent of the City Fish Passage Barrier Removal and Habitat Restoration Grant program is to integrate clean water with salmon restoration efforts and compliments the WSDOT ESA response. Grant funding may vary from year to year; check with the Program Manager at WSDOT for more detailed information.

Environmental Protection Agency (EPA)

Region 10: Pacific Northwest

Grants Administration Unit
Bob Phillips
phillips.bob@epa.gov
(206) 553-6367

The Environmental Protection Agency funds a variety of projects that aim to safeguard the natural environment and protect human health. EPA distributes federal funding through the National Estuary Program (NEP) to support Puget Sound protection and restoration work. Most of the funds are used for financial assistance to state, local and Tribal governments for their efforts to implement the Puget Sound Action Agenda. The EPA selected WDFW and WADNR to receive and strategically invest funding for “Marine and Nearshore Protection and Restoration.” Most of these funds will be invested in competitively selected projects led by other entities, such as local governments. To date, EPA has allocated approximately \$8.5 million to the Grant Program. Potential opportunities specific to watershed protection and restoration are listed below.

- *The Clean Water State Revolving Fund Program:* Under this program, EPA provides grants or “seed money” to all 50 states plus Puerto Rico to capitalize state loan funds. The states, in turn, make loans to communities, individuals, and others for high-priority water-quality activities. Projects funded by the low-interest loans may include wetlands protection and restoration, estuary management efforts – including wildlife habitat restoration – and development of streambank buffer zones.
- *Nonpoint Source Implementation Grant (319) Program:* Clean Water Act Section 319(h) funds are provided only to designated state and tribal agencies to implement their approved nonpoint source management programs. State and tribal nonpoint source programs include a variety of components, including technical assistance, financial assistance, education, training, technology transfer,

demonstration projects, and regulatory programs. Each year, EPA awards Section 319(h) funds to states in accordance with a state-by-state allocation formula that EPA has developed in consultation with the states.

- *Wetland Protection, Restoration, and Stewardship Discretionary Funding:* This program provides support for studies and activities related to implementation of Section 404 of the Clean Water Act for both wetlands and sediment management. Projects can support regulatory, planning, restoration or outreach issues. Typical grant awards range from \$5,000 to \$20,000.

U.S. Fish & Wildlife Service (USFWS)

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911 NE 11th Avenue
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Nell_Fuller@fws.gov

Grant programs administered by USFWS are described below.

- *Partners for Fish and Wildlife Program:* This program provides technical and financial assistance to private landowners and Tribes who are willing to work with USFWS and other partners on a voluntary basis to help meet the habitat needs of Federal Trust Species. The Partners Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or ecosystems that otherwise provide an important habitat requisite for a rare, declining or protected species. The typical grant award is approximately \$25,000.
- *Puget Sound Program:* The Puget Sound Program was established to protect, restore, and enhance the natural resources of Washington's coastal ecosystems. USFWS works closely with the U.S. Environmental Protection Agency's National Estuary Program, and their State partner, the Puget Sound Water Quality Action Team to conserve fish and wildlife and their habitats in Puget Sound, an "estuary of national significance." Partnerships with other agencies, Native American Tribes, citizens, and organizations are emphasized.
- *National Fish Passage Program:* Each year the Service solicits and inputs select fish passage projects into the Fisheries Operational Needs System database. Projects are prioritized and selected based upon the benefits to species and the geographical area. Typical projects include barrier culvert removal or replacement with a fish passable culvert or bridge, and re-opening oxbow and off channel habitats. Typical funding amounts range from \$30,000 to \$110,000 with a minimum 25% cost share requested.
- *Cooperative Endangered Species Conservation Fund:* Grants offered through the Cooperative Endangered Species Conservation Fund support participation in a wide array of voluntary conservation projects for candidate, proposed and listed

species. These funds may in turn be awarded to private landowners and groups for conservation projects.

- *North American Wetlands Conservation Act Grants Program*: The North American Wetlands Conservation Act of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. The Standard Grants Program supports projects in Canada, the United States, and Mexico that involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats. The Small Grants Program operates only in the United States; it supports the same type of projects and adheres to the same selection criteria and administrative guidelines as the U.S. Standard Grants Program. However, project activities are usually smaller in scope and involve fewer project dollars. Grant requests may not exceed \$75,000, and funding priority is given to grantees or partners new to the Act's Grants Program.

**U.S. Army Corps of Engineers
Basinwide Restoration New Starts General Investigation**

Bruce Sexauer
P.O. Box 3755
Seattle, WA 98134
(206) 764-6959

Funding for projects related to coastal ecosystems, fish and wildlife, flood management, land management and planning, outdoor recreation, general restoration, riparian areas, water quality, and wetlands is provided through this program at a 65:35 cost share. Studies on the same topics are funded at a 50:50 cost share.

**Interagency Committee for Outdoor Recreation
Washington Wildlife Recreation Program**

1111 Washington St. SE
PO Box 40917
Olympia, WA 98504
360-902-3000, info@iac.wa.gov

The WWRP provides funds for the acquisition and development of recreation and conservation lands. WWRP funds are administered by account and category. The Habitat Conservation Account includes critical habitat, natural areas, and urban wildlife categories. The Outdoor Recreation Account includes local parks, state parks, trails, and water access categories. Letters of intent are usually due March 1 of each year. Applications are usually due May 1.

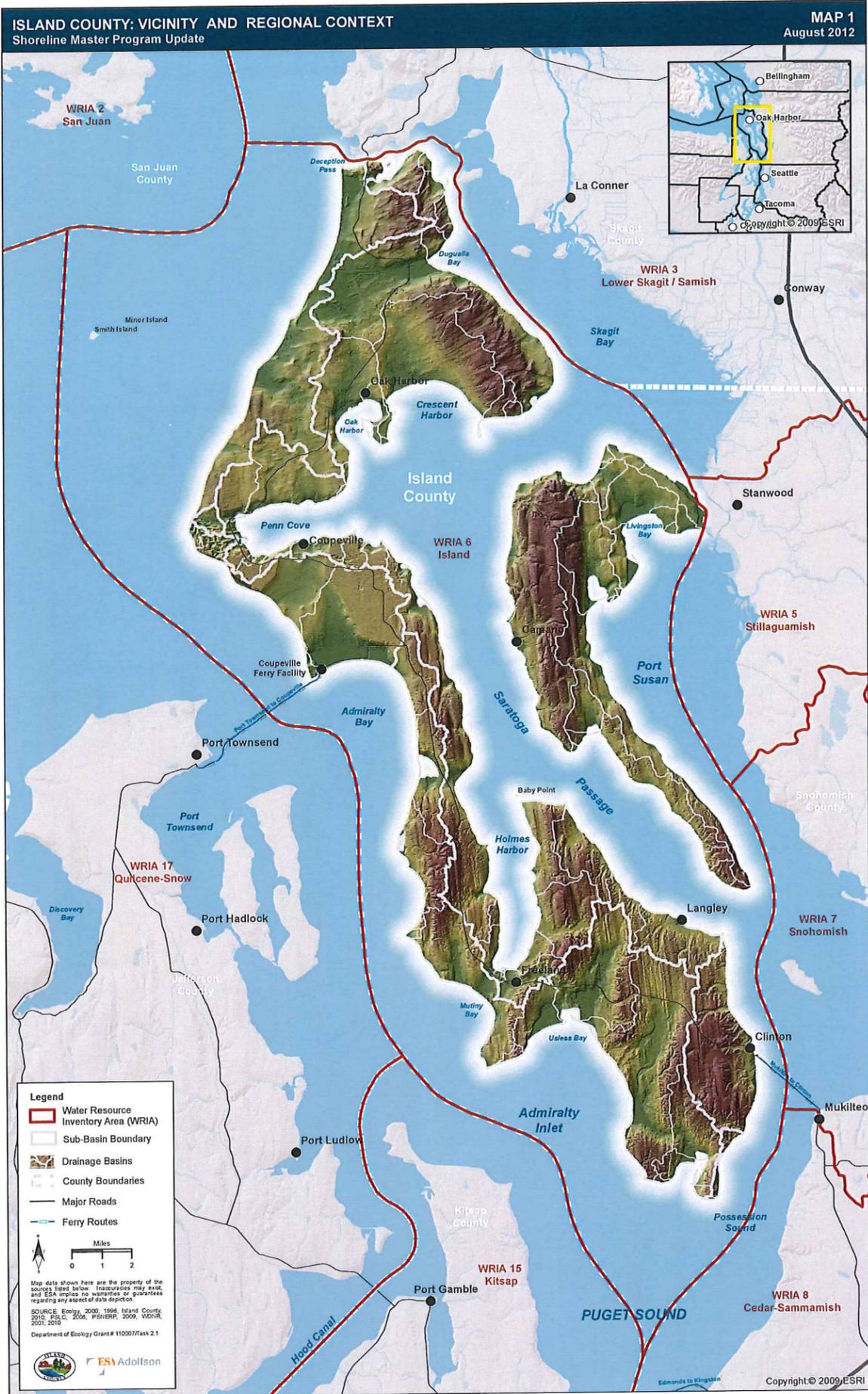
Trout Unlimited
Embrace-A-Stream
406-543-1192
www.tu.org

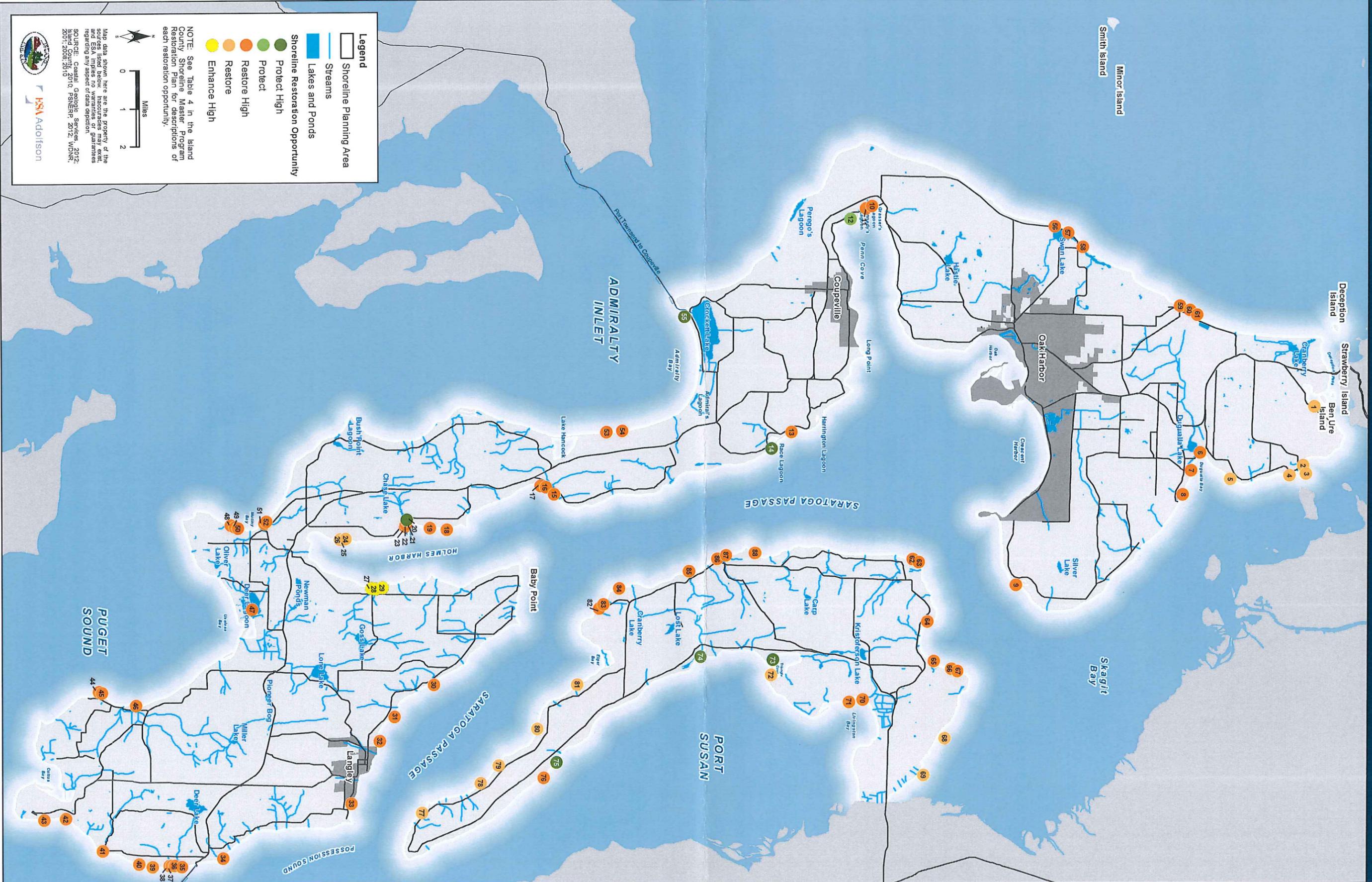
Embrace-A-Stream (EAS) is the flagship grant program for funding Trout Unlimited's conservation efforts to conserve, protect, and restore coldwater fisheries and their watersheds. Trout Unlimited annually raises money from TU members, corporate and agency partners, and foundations to distribute as small grants to local TU projects. The goal of EAS is to conserve coldwater fisheries through innovative grassroots conservation projects. Successful projects are based on sound science, benefit the resource, strengthen the local TU chapter and council, and help build the constituency for protecting trout and salmon. TU volunteers are actively involved in project work and are expected to provide matching funds. An Embrace-A-Stream Committee comprised of TU volunteer representatives and scientific advisors evaluates all proposed projects.

Natural Resources Conservation Service
Conservation Reserve Program
<http://www.nrcs.usda.gov/programs/crp/>

The Conservation Reserve Program (CRP) provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with federal, state, and tribal environmental laws, and encourages environmental enhancement. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as grasses, wildlife plantings, trees, filterstrips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices.

APPENDIX B. MAPS





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