Northwest Straits Marine Conservation Initiative
Progress Report
2004-2005
Two More Years of Success

NORTHWEST STRAITS
marine conservation initiative

Northwest Straits Marine Conservation Initiative
10441 Bayview-Edison Road
Mount Vernon, WA 98273
360-428-1084
www.nwstraits.org

Northwest Straits Commission Members

Marine Resources Committee Representatives

Ivar Dolph - Skagit County Marine Resources Committee
Jody Kennedy - San Juan County Marine Resources Committee
Phyllis Kind - Island County Marine Resources Committee
Buck Meloy/Amy Kraham - Whatcom County Marine Resources Committee
Anne Murphy - Jefferson County Marine Resources Committee
Joe Schmitt - Clallam County Marine Resources Committee
Daryl Williams - Snohomish County Marine Resources Committee

Governor's Appointees

Andrea Copping - Washington Sea Grant Program
Duane Fagergren - Puget Sound Action Team
Kathy Fletcher - People For Puget Sound
Joe Gaydos – SeaDoc Society
Susan Bauer - Port of Port Angeles

Secretary of the Interior Appointee

Terry Williams - Tulalip Tribes

Commission Staff and Resource Support

Tom Cowan, Director
Sasha Horst, Project Specialist
Ginny Broadhurst, Marine Program Coordinator
Terry Stevens, Padilla Bay Director

This report was written by Joan Drinkwin with assistance from Ginny Broadhurst and all seven marine resources committees. Edited by Ginny Broadhurst. Layout by Sasha Horst.
Cover photos: (top to bottom) Duane Fagergren, Maya Hunger, Jim Ramaglia. Background picture Ginny Broadhurst.

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CHAPTER 1

INTRODUCTION

The Northwest Straits Marine Conservation Initiative (the Initiative) began work in 1998 to restore, conserve, and protect the Northwest Straits marine resources. It was designed by the Murray-Metcalf Commission, a blue-ribbon panel called together by Senator Patty Murray and U.S. Representative Jack Metcalf to address the need to protect and restore marine resources in the Northwest Straits. The Murray-Metcalf Commission developed the Initiative as a "bottom-up" program allowing local Marine Resource Committees (MRCs) to set priorities and goals for restoring ecosystem health, as well as to initiate and carry out projects within a regional framework.

The Initiative design invited the formation of Marine Resources Committees (MRCs) in the seven counties of the Northwest Straits region: Clallam, Island, Jefferson, San Juan, Skagit, Snohomish, and Whatcom. A 13-person Northwest Straits Commission (the Commission) was established to provide a regional ecosystem-wide perspective, to coordinate county-level efforts, and to link Initiative work with other agencies and regional activities. The Commission is comprised of one representative from each of the seven MRCs, a tribal representative appointed by the Secretary of the Interior, and five gubernatorial appointees — one from the Puget Sound Action Team (a program in the Governor's office) and the others from outside government. MRCs are comprised of community members, appointed by the local county board of commissioners or county council, who represent a broad spectrum of interests. Tribal representatives are also invited to participate on MRCs. A typical MRC has representation from business, tribes, recreational interests, conservation organization, the local port and someone with relevant scientific expertise.

Since its inception, the Initiative has been driven by the MRCs, achieving a level of support from local governments, tribes, non-governmental organizations, businesses, scientists, and citizens not often seen. For the last seven years, the Initiative has funded scores of local projects aimed at addressing the priorities determined by local committees informed by science. The Commission supported regional projects to compile nearshore data throughout the region and taken the lead on tackling the pervasive problem of derelict fishing gear in the Northwest Straits. It built strong partnerships with Treaty Tribes in the region. In 2004, the Initiative received a rigorous five-year independent evaluation to determine its effectiveness and viability.

In August 2005, the Initiative was recognized as a national model for cooperative conservation, and a five person panel from the Commission was invited to speak about the Northwest Straits Initiative at the White House Cooperative Conservation Conference. The Department of Interior, called these featured case studies, "the very best examples of cooperative conservation, focusing on what can be achieved when using collaborative strategies to address conservation, natural resource and environmental issues".

The formula for the Initiative's success is difficult to pinpoint, but it certainly includes six key components:

- Local Control: Local citizens are organized and empowered to choose priorities in their own community within the framework of benchmarks agreed on by all the MRCs. The MRCs are created, funded, and appointed by County elected officials, thereby ensuring political support for the committee's work.
- Regional Coordination and Support: The Commission provides coordination, training and technical support that allows MRCs to learn from each other and build on each others' successes.
- Federal Support: The Initiative is endorsed and funded through congressional action, giving it a high level of credibility.
- Sound Science: From the outset, the MRCs and Commission have relied on science to guide their discussions and actions. Involvement of local scientists has been consistently strong.
- MRC Funding: Yearly action grants available from the Commission allow complex projects to be

appropriately planned, designed, implemented, monitored, evaluated, and disseminated.

- Partnerships: Businesses, tribes, local governments, state and federal agencies, ports, scientists and a host of non-profit groups provide the critical support to make the work of the Initiative successful.

The Northwest Straits Initiative is a unique combination of local people, integrated within a regional framework, combining strategic partnerships and federal support. While much work remains to reach the long-term goal of a healthy marine ecosystem, the Initiative is already a model of action, collaboration and participation.

Background on the Northwest Straits

The Northwest Straits includes the U.S. marine waters of the Strait of Juan de Fuca, the San Juan Islands and northern Puget Sound reaching from the southern borders of Snohomish and Jefferson counties to the Canadian border. Seven counties, 15 tribes, many cities and other local governments have jurisdiction in the region.

This spectacular stretch of marine waters provides a great variety of productive habitats, including kelp forests, eelgrass beds, mudflats, rocky reefs, tide pools teeming with life, and vast stretches of open water. These habitats are essential feeding and breeding grounds for a wealth of fish, birds and mammals, migratory corridors for salmon and the region is home to the southern resident population of orcas. While this region is well known for its rugged coastline and beauty, the marine resources of the Northwest Straits are experiencing serious environmental problems.

Many marine species are declining in their abundance, and marine habitats continue to be altered and degraded throughout the region. Instances of significant declines occur in diverse species. Some rockfish species are at less than ten per cent of their historic levels (Puget Sound Action Team 2004). The Cherry Point herring stock, historically the largest of the herring stocks in Puget Sound, declined from 15,000 tons of spawning biomass in 1973, when quantitative sampling began, to just 800 tons in 2000 and an estimated 1700 tons in 2004. They are currently being considered for listing under the federal Endangered Species Act.

At the top of the food chain, the resident killer whale (*Orcinus orca*) provides an interesting perspective on threats and concerns in Northwest Straits waters. Orca populations fluctuated significantly between 1974 and 2001 with a 20 percent decline in the last five years of that time (Krahn et al. 2002) but with incremental increases in the last few years. In 2004, National Marine Fisheries Service began a public comment process to consider listing orcas as threatened. The threats to orcas are considered to be lack of prey availability, pollution, disruption from vessels and the potential for a major oil spill.

Of the more than 30 species of seabirds and seaducks in the region, approximately 30% are listed as threatened or endangered or are candidate species for listing. The status of the western grebe is of great concern with its population down 95 percent over the past 20 years (Puget Sound Action Team 2004). Altered and degraded habitats, contaminants, prey availability and direct human interactions with birds are the likely culprits for these declines according to scientists at a 2005 meeting (Gaydos 2005).

The quality of water and sediments in Puget Sounds continues to decline despite some major cleanup efforts. PCBs in English sole, herring, salmon, harbor seals and orcas indicate contamination of the Puget Sound food web (Puget Sound Action Team 2004). Some 30,000 acres of commercial shellfish growing areas remain closed for harvest due to contamination. The last few years has seen several oil spills that have sparked concern about our abilities to response to spills effectively and appropriately.

Meanwhile, new issues have arisen such as recognizing the existence of chemical compounds from flame retardants in marine mammals, identifying pharmaceuticals in marine waters and recognizing the significance and potential impacts of global climate change regionally. Addressing these complex environmental issues can only be done through cooperative, science-based work.

The First Five Years

The activities of the Commission and the MRCs from 1998 – 2003 are documented in the Initiative's five-year report to Congress, *A Sound Investment: the Northwest Straits Initiative* (Broadhurst 2003). The report includes a more comprehensive background of the Initiative's creation and the impetus behind it as well as a chronicle of the programs and projects of the Initiative. The report can be accessed on the Commission's website: www.nwstraits.org/library-nsi.html.

During those first five years, the MRCs forged ahead with action oriented projects focused on priority benchmarks. Projects designed to fill data gaps about local marine resources emerged. These included different inventory projects, looking at forage fish spawning sites, eelgrass beds, rocky reef habitat and shoreline land use. The need for comprehensive data to identify forage fish spawning beaches was a high priority and the Initiative framework became a platform for a regional forage fish spawning identification project. Whenever necessary, protocols were developed for the projects using best available science and in a format compatible with state and local resource agencies.

CHAPTER 2

This report documents the activities of the Northwest Straits Initiative from November 2003 through June 2005. During that time period, the Commission and the MRCs underwent a rigorous evaluation process, refined the Initiative's goals and benchmarks, and continued to implement creative programs and projects aimed at conserving and protecting the Northwest Straits.

EVALUATION PROCESS

The Initiative was a bold and creative endeavor when it was created in 1998. Nothing like it existed, and even members of the Murray-Metcalf Commission were uncertain as to whether citizens could make progress on the Initiative's challenging benchmarks. When Congress authorized the Initiative, it mandated a formal independent evaluation of the Initiative after five years. In January, 2004, an eight member Evaluation Panel appointed by Senator Murray and the Governor, and chaired by former U.S. Environmental Protection Agency Administrator William Ruckelshaus held four days of hearings. After a thorough assessment of the work of the Commission and MRCs, the panel unanimously recommended federal reauthorization and increased federal funding for the Initiative. In a letter to Senator Murray and Governor Locke, William Ruckelshaus wrote "In these first five years, the Initiative has accomplished valuable research and restoration projects and has established a strong foundation of mechanisms, relationships, and capacity."

The panel found the Initiative to be an excellent investment in locally-based marine conservation. The Initiative mobilized broad citizen support for conservation projects, increased public understanding of marine ecosystems, and created a model of marine governance and regional sharing of information and ideas that can be adapted to other locations. The evaluation panel also praised the Initiative for successfully bringing together tribal governments, citizens, and local, state and federal agencies to work cooperatively and effectively on environmental issues.

The Evaluation Panel made four recommendations for continuing, supporting and improving the Initiative. (The full text of the Evaluation Panel's findings and recommendations are available in their final report written by the Policy Consensus Center.)

1. The Initiative should be reauthorized by Congress for an extended period of time
2. The Initiative should receive increased federal funding
3. There should be replication of the Initiative in other areas
4. The Initiative should undergo an internal priorities setting process

Consideration of the report and its recommendations launched a nearly year-long process of strategic planning that involved the full Commission and all MRCs. Two visible products emerged from this: revised benchmarks and a new strategic plan (see appendix A). The strategic plan lays out the tasks to get to the vision and the new benchmarks provide a clearer means to define the goals. These documents also helped lay the groundwork for reauthorization. Reauthorization of the Initiative is being proposed to Congress through Senator Murray's office.

An increased budget for the Initiative was approved by Congress in 2004, allowing for increased funding to individual MRCs, increased tribal support and other increases as envisioned by the Evaluation Panel. The $1.2 million received for FY 2005 is still less than the $1.6 million recommended by the panel.

Efforts to replicate the Initiative are being considered, primarily in neighboring south Puget Sound but no concrete actions were taken in this reporting period.

Projects, Programs and Research of the MRCs and the Commission November 2003 – June 2005

The following section provides an overview of specific projects and programs of the seven MRCs and the Commission. These activities collectively make progress toward the benchmarks. Much of the work was accomplished with Initiative funding and some was matched by other sources. Enormous contributions of volunteer labor were donated by MRC members and others. During the last two years the MRCs increased their focus on action-oriented, on-the-ground projects. And they have taken time to step back and look comprehensively and strategically at what needs to be done in the future.

Although it is convenient to organize MRC projects by county, it is important to recognize that the work being done in geographically distinct areas makes up a whole effort that is focused on the entire Northwest Straits ecosystem. It is also important to recognize that the success of the MRCs is a community-wide success. All the MRCs work with a wide variety of partners. All work hand in hand with other governments and tribes as well as local businesses, organizations, scientists, and individual community members.

Regular information sharing at Commission meetings and annual training conferences allow the MRCs to be informed about what other MRCs are doing and learn details about their projects. Jefferson MRC and Clallam MRC have held two joint meetings to strengthen their collaborative work and to learn from each other.

Project work occurs in different ways. Sometimes an MRC will hire other organizations to complete a project. Sometimes it will fund a research scientist or consultant to gather needed data. Sometimes an MRC will complete a project or host an event itself, enlisting partners all along the way. Or the MRC will join an existing or on-going project because it furthers the goal and benchmarks of the Northwest Straits Initiative and the local priorities of the MRCs. All of the projects and activities highlighted in this section represent a huge amount of energy, time, and resources spent to further protect and restore the Northwest Straits ecosystem.

MRC PROJECTS

CLALLAM COUNTY

Elwha nearshore monitoring and restoration workshop

Clallam County's Elwha River is an important salmon spawning river, with much of its pristine salmon habitat cut off from the Central Strait of Juan de Fuca by two dams, the Elwha and Glines Canyon dams. These two dams are slated for removal in 2008. Nearshore habitat restoration is a complex component of the dam removal. Recognizing this, the Clallam MRC, with the Puget Sound Water Quality Action Team, Washington Department of Fish and Wildlife (WDFW), the Elwha Tribe, Olympic National Park and other partners, convened an Elwha Nearshore Monitoring and Restoration Workshop in the spring of 2004. This workshop was the first comprehensive, interdisciplinary dialogue about the effects of dam removal on the nearshore (Triangle Associates Inc. 2004).

Photo Dept of Ecology.

The workshop brought together over 50 scientists and resource managers from local, state, federal and tribal government agencies, universities, non-profit organizations, private industry and consulting firms to focus on the restoration elements of dam removal on the Central Strait of Juan de Fuca nearshore. Many of the recommendations at the workshop are now being implemented. The Clallam MRC remains committed to seeing that the removal of the dams on the Elwha River is approached with an eye to restoring the nearshore environment.

The scientific workshop was preceded by an evening public meeting, where community members could both learn about nearshore habitat issues related to dam removal and voice concerns and suggestions regarding the same. Results of both the scientific and public workshops are available in proceedings on the Clallam MRC website www.clallammrc.org.

Derelict fishing gear removal

The Clallam MRC also implemented a derelict gear retrieval project, removing a total of 52 crab pots, eleven octopus traps, and seven shrimp pots from Sequim Bay, Dungeness Bay, Crescent Bay and Port Angeles Harbor. Observations of crab found in recovered pots indicated that up to 17,000 crabs per year could be killed by derelict gear. This represents up to ten per cent of the total crab harvest in the area. County staff and MRC members made presentations to a variety of public forums regarding the problem of derelict gear and the benefits of this removal project. The *Peninsula Daily News* provided front page coverage for the project. Clallam MRC intends to continue this project in the future.

Photo Joe Schmitt.

Olympia oyster seeding and monitoring

To further the restoration of native shellfish, the Clallam MRC worked with Puget Sound Restoration Fund and the Jamestown S'Klallam Tribe to plant Olympia oyster seed at Sequim Bay, Dungeness Bay, Port Angeles Harbor and other locations in the western Strait of Juan de Fuca. The MRC also continues to monitor seed planted in previous project years. During this reporting period, over 300,000 seed were planted in Clallam County. Making a total of 568,000 seed planted in Clallam County since the MRC took on this work.

Forage fish spawning habitat surveys and data use

The Clallam MRC continued its support of WDFW forage fish studies on beaches in Clallam County. With funds from the MRC, WDFW conducted additional surveys, finding a new spawning location for sand lance to add to the number of new locations found in previous sampling years. The work led to a number of ground breaking discoveries on forage fish use of the nearshore environment, including use in previously undocumented habitats such as surf smelt spawning in lower rivers. The County incorporated this forage fish spawning habitat data into its planning database, so all planning and permitting decisions are informed about these resources.

Monitoring shellfish beds for paralytic shellfish poisoning

Individual MRC members continued monitoring shellfish for paralytic shellfish poisoning on the West-end beaches. Their initial monitoring data resulted in the opening of 30 miles of beachfront previously closed by the Washington State Department of Health for lack of data. Continued monitoring of these beaches keeps them open for safe shellfish harvesting.

Communication and partnerships

The MRC relationship with its County government is strong. Elected officials often attend the MRC meetings and the MRC's advice and insight is sought after. Likewise, the Clallam MRC has a very cooperative relationship with area tribes. The Makah, Lower Elwha, and Jamestown S'Klallam tribes all sit on the committee and most of the MRC projects are carried out in partnership with one or more tribes. The North Olympic Peninsula lead entity for salmon recovery in the region consults the MRC when ranking salmon recovery projects having marine components.

Public education

In addition, the MRC continues a vigorous public education and outreach agenda. Members and staff provided information at the Dungeness River Festival and Streamfest, made public presentations about the committees derelict gear removal project, and maintain an easy to use website with full reports and newsletters about the Elwha Nearshore Consortium, which is coordinated by WDFW.

ISLAND COUNTY

Shore stewards program

The signature program of the Island County MRC is its Shore Stewards Program, which was started on Camano Island in 2002 in partnership with the Island County WSU Beach Watchers. Modeled after the National Wildlife Federation's Backyard Wildlife Program, the Shore Stewards Program is designed to conserve and restore nearshore habitats on private properties by educating, and assisting shoreline property owners. The program provides shoreline owners with information about the marine resources on their properties and up-to-date best management recommendations. When property owners pledge to adopt best management practices, they are recognized as Certified Shore Stewards, given a sign to place on their property and provided with a guidebook on how to best manage their property. Beach Watcher volunteers drafted the program materials and formed the core membership. Every year, the program hosts four educational workshops covering topics such as bulkheads and beach hardening, and nearshore habitat. Since the end of 2003, these workshops have reached hundreds of shoreline property owners.

The program expanded to Whidbey Island in 2005 and the number of Shore Stewards grew from 61 to 161, representing 108 properties, including that of U.S. Senator Patty Murray, an Island County shoreline owner.

In 2004, the Puget Sound Water Quality Action Team provided funding, in partnership with the Jefferson County WSU Cooperative Extension, to replicate the Shore Stewards Program in Jefferson, Kitsap, and Mason Counties.

Marine stewardship areas designation and boat tour

To raise more awareness about the county's marine resources, the MRC recommended to the Board of County Commissioners to designate two Marine Stewardship Areas, encompassing all the county's waters. In December 2003, the Board created the Admiralty Inlet and Saratoga Passage marine stewardship areas. Through the designation of the Marine Stewardship Areas, citizens and visitors are asked to adopt an attitude of personal responsibility toward these waters, making a special effort to recognize, understand, respect and care for them because they are so important to Island County's heritage and quality of life.

To achieve these goals, the Island MRC and its partner organizations are focusing increased educational efforts on the nearshore waters of Saratoga Passage and Admiralty Inlet. To kick off that education effort, the MRC hosted 250 people on a boat tour of Saratoga Passage. The tour succeeded in publicizing the designation and educating participants about the resources of the Stewardship Area. Major sponsors of the event included Nichols Brothers Boat Builders, American Pacific, Penn Cove Mussels and Westcott Bay Shellfish. This event demonstrated the strong support from private industry that the Island MRC enjoys.

Photo by NWSC..

Shoreline hardening project

The Island MRC continued to be very active in collecting scientific data about the county's marine resources. During this report period, the Island MRC continued the Shoreline Hardening Project begun in 2002. The project was designed to determine where the county's shoreline and natural shoreline processes are affected by human-made structures such as riprap, boat ramps, and docks and piers. Using global positioning system to document exact locations, volunteers, many from the Beach Watcher program, walked every inch of accessible beach, noting

structures and geography. This multi-year project was completed in 2004. A map of the project results and narratives of the beach walks are available on the Island County MRC website www.island.wsu.edu/hardening.

Feeder bluff and accretion shoreform mapping project

Following up the Shoreline Hardening Project in 2003, the MRC implemented the Feeder Bluff and Accretion Shoreform Mapping Project to definitively map feeder bluffs and accretion shoreforms along the entire shore of both Whidbey and Camano Islands. Using the shoreline hardening inventory data, other data sources, and fieldwork, Coastal Geologic Services, Inc., documented the location of all feeder bluffs and accretion shoreforms. The consultant also analyzed how much the natural flow of sediment was impaired by human-made structures and made recommendations for acquisition and/or restoration opportunistically where possible.

Pigeon guillemot nesting survey

After much effort studying the county's eelgrass habitats and forage fish spawning habitat, the Island County MRC turned its attention to the top of the marine food chain and looked at the nesting and feeding habits of the pigeon guillemot (*Cepphus columba*). Several colonies of this sea bird nest in burrows in the bluffs of Whidbey Island. In partnership with the Whidbey Audubon Society, the MRC is studying the birds' nesting, feeding, and fledging habits to provide greater understanding of the birds' role in the marine ecosystem of Whidbey Island.

Data compilation and use

MRC data are always disseminated to the greatest extent possible upon project completion, and now they are being compiled into one database for ready use by decision-makers, scientists, permitting agencies, educators, Certified Shore Stewards and all citizens. This huge task is being accomplished by the Island County Department of Public Works, with help from WSU Cooperative Extension and data from the MRC and other sources.

Data generated through MRC projects has also been put to use by the City of Oak Harbor in its Waterfront Development Plan. The City allowed private developers to use the MRC's eelgrass and forage fish spawning habitat data (generated in previous project years) to design specific components of the Plan. This created greater efficiencies and ensured the objectivity of the data used for private development as well as ensured that existing marine resources would be recognized and protected during development of the City's waterfront.

Spartina removal and education

Spartina is an aggressive, invasive cordgrass that has infested tideflats in Island County, the greater Puget Sound and estuaries along the coast of Washington. In 2004, the MRC worked with People for Puget Sound, the Island County Noxious Weeds Control Board, and the City of Oak Harbor to implement two *Spartina* removal projects. During two days of digging, a third of an acre of *Spartina* was removed from Camano and Whidbey Island beaches. Forty volunteers participated and put in over 160 hours of work. This project received front page coverage of the *Whidbey News-Times*.

The Island MRC also partnered with numerous schools and agencies to sponsor a Spartina Eradication and Education Conference in May, 2004. One hundred twenty students and other citizens participated in two days of education and activities related to Spartina eradication. Forty participants in this conference assisted with the *Spartina* dig events later that summer.

Creosote debris removal

In 2005, the Island MRC partnered with the Washington State Department of Natural Resources to remove 34,000 pounds of creosote-laden debris from the beach at Camp Casey. The MRC helped by coordinating volunteers and providing funding. A total of 32 volunteers donated their time to this project.

JEFFERSON COUNTY

Voluntary no anchor zone eelgrass protection project

The City of Port Townsend is one of the more popular destinations for pleasure boaters in Washington's inland waters. Its shoreline habitat is important to salmon, including the ESA listed Hood Canal Summer Chum. Juvenile salmon are observed in the early summer in the eelgrass beds that stretch along the downtown. This nearshore area off the downtown waterfront is heavily used by visiting boats for anchorage. During festivals and events more than 50 vessels have been observed on anchor off the town's waterfront. Anchoring in eelgrass can damage the beds by pulling up mud and plants.

The Jefferson MRC's Voluntary No Anchor Zone Eelgrass Protection Project protects critical eelgrass habitat along the City of Port Townsend's downtown waterfront. The project educates boaters about the importance of eelgrass and encourages voluntary cooperation in refraining from anchoring in the eelgrass (Jefferson County Marine Resource Committee 2005).

In the springs of 2004 and 2005, the Jefferson MRC delineated the eelgrass beds with buoys and asked boaters to anchor outside the buoys. The MRC coordinated with a number of businesses and commercial representatives to gain their support and help with education efforts. Six interpretive signs were installed at key locations where boaters come ashore to inform boaters and the public about the purpose of the seasonal marker buoys and no-anchor zone. Brochures were distributed from a number of locations, including the port office, the city –owned Union wharf, City dock, and Adams Street Beach. *The Port Townsend Leader* provided excellent coverage about the project. The Port Townsend Chamber of Commerce and the Port of Port Townsend have added links on their websites to the Jefferson MRC website and information about the no-anchor zone.

To evaluate the project, dock-line photo surveys were conducted in 2004 and 2005. Data showed that the project was effective in changing boater behaviors, with a significant reduction in the number of boaters anchoring in the eelgrass beds.

Olympia oyster seeding and monitoring

Since 2002 the Jefferson MRC has partnered with the Puget Sound Restoration Fund and Jamestown S'Klallam Tribe to rebuild native Olympia oysters stocks in Discovery Bay. In 2004, approximately 180,000 Olympia oyster seed were planted, making a total of 400,000 oyster seed planted on seven sites in Discovery Bay. Fourteen people participated in the 2004 planting and also monitored the success rate of plantings done in previous years. Two educational signs were installed at Discovery Bay including one at a Port of Port Townsend boat launch site. The MRC continued to monitor its previous plantings in the spring of 2005.

Photo by Duane Fagergren.

Discovery Bay stewardship project and discovery bay habitat cruise

In June, 2004, the MRC enlisted the University of Washington Centennial Research Vessel and Remotely Operated Vehicle to explore the kelp and rockfish habitat during a cruise of the Discovery Bay. In addition to MRC members, eight other community members participated in the survey.

The MRC developed and implemented the Discovery Bay Stewardship Project in order to focus energy and education on the unique resources of Discovery Bay. The MRC worked closely with many partners, including the Washington State University (WSU) Cooperative Extension, Discovery Bay Baywatchers, WSU Water/Beach Watchers, the Puget Sound Water Quality Action Team, the North Olympic Salmon Coalition, Chumsortium, and Washington Department of Fish and Wildlife. The project included several events where residents gathered to learn and share about the social and natural history of Discovery Bay. Residents enlisted to be 'ambassadors' to involve their neighbors and friends in four community beach walks where they learned about nearshore processes, estuaries and forage fish. In the summer of 2005, Discovery Bay Day was held. This event, drew over 120 community members and offered participants children's' science activities, a barbeque, presentations by the MRC, Jefferson Land Trust, and WDFW, and guided field trips to Salmon/Snow Creeks and the estuary.

Forage fish spawning habitat surveys and data use

Jefferson MRC completed its forage fish spawning habitat surveys in 2004. The North Olympic Salmon Coalition (NOSC) collected the GIS and other data from the beach samples and entered them into the regional forage fish database. The Jefferson County forage fish data have been incorporated into a report and shoreline atlas for use in the City of Port Townsend Shoreline Master Program update. NOSC mailed out report results to shoreline landowners and interested parties in the summer of 2005.

Public education

The MRC regularly participates in four large community events with education about protecting eelgrass in the Port of Port Townsend, seeding native oysters in county waters, and protecting and restoring other marine resources. The events are the Low tide Fest, the Port Townsend Wooden Boat Festival, the Jefferson County Fair, and the Bounty of the Sea. The MRC reaches hundreds of community members at these events. At the county fair, where over 16,000 people attended last year, the MRC uses an innovative 'nickle voting' game to engage visitors to the MRC booth. Visitors are asked to vote with their nickles for which of the MRC projects they most support. This activity not only gives the MRC a snapshot of community support, but also educates the visitors using active learning rather than the usual visual displays and conversation.

Communication and partnerships

The Jefferson MRC updates its Board of County Commissioners on a quarterly basis. This keeps the elected officials informed of recent news and helps to provide continued support for the committee's work.

Many diverse partners help make the Jefferson MRC's projects successful. The Jamestown S'Klallam tribe worked with the MRC on the Olympia oyster seeding project, and the Port Townsend Marine Science Center is a tireless advocate. The businesses of Port Townsend and the Chamber of Commerce were instrumental in making the Port Townsend No Anchor Eelgrass Protection Zone Project a success. Many businesses provided support in the form of space for the eelgrass protection signs and brochures and even provided supplies, such as the lumber donated by Carl's Building Supply.

SAN JUAN COUNTY

Bottomfish recovery zones and bottomfish management recommendations

The San Juan MRC, like the other MRCs, builds its projects on the foundation laid by earlier projects. The past two years have been no different.

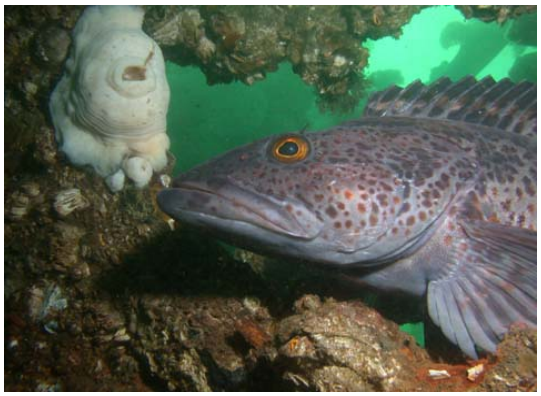

Photo by Jim Ramaglia.

One of the top priorities for the San Juan MRC when it was established in 1996 was protection and recovery of bottomfish. After careful research and public involvement, eight Bottomfish Recovery Zones were established in 1997. These zones were established as voluntary 'no-fishing' zones for the purpose of maintaining nursery stock and preserving habitat for a number of species, such as lingcod and rockfish. The MRC has been very active in educating fishers about these zones through public outreach and advertisements in the Washington Department of Fish and Wildlife annual fishing guide.

During this report period, the MRC compiled findings from an earlier scientific workshop and field study of fishing pressure in selected Bottomfish Recovery Zones to develop recommended management strategies for bottomfish. It then presented these recommendations to fisheries co-managers at all levels, including tribes, local governments, the state and federal agencies.

Marine stewardship area

During 2003 the San Juan MRC developed a proposal for a San Juan County Marine Stewardship Area (MSA). The goal of the marine stewardship area was to protect the unique and valuable marine resources of the islands while allowing sustainable use of marine resources to continue forever (San Juan County Marine Resource Committee. 2005). In early 2004, the San Juan Board of County Commissioners formally established the Marine Stewardship Area, which encompasses all of the County's marine waters. The first two phases of the Marine Stewardship Area Project have been completed.

During the first phase, the MRC researched all existing regulations and protections already in place in the county waters. The MRC created maps showing existing marine protected areas and the accompanying guidelines and regulations for these areas and used brochures and paid advertisements to educate the public and commercial interests about the MSA. Five community meetings were hosted by the MRC to provide public feedback. More than 100 community members were reached at these meetings, including individuals from the outlying islands of Waldron and Shaw. Information was also presented to over a dozen organizations and community groups, including local chambers of commerce, boaters groups and community service organizations. The three largest print papers and the online publication for the San Juan Islands printed multiple stories on the MSA and the MRC's outreach campaign. With the Port of Friday Harbor, the MRC produced over 5000 laminated maps of the MSA for distribution at boating and fishing events and to charter boats in Anacortes and Friday Harbor.

The second phase of the Marine Stewardship Area Project involved planning for protections and restoration within the MSA. The MRC accomplished this using a systematic ranking process designed by scientists with expertise in

the San Juan County marine ecosystem. Criteria for ranking conservation efforts and identifying target areas for conservation and restoration within the MSA were developed at an all-day workshop, attended by over 40 scientists. The MRC pursued the development of a zone scheme for San Juan County waters modeled after the Great Barrier Reef Marine Park, where a zone-based planning scheme designates special management areas. Following this model, the MRC identified four general management zones for San Juan County waters.

Out of this process, the San Juan MRC also developed a "Working Marine Stewardship Area Management Measure Checklist" to review new policy proposals for the Marine Stewardship Area. The checklist includes a series of questions designed to establish the objectives and technical basis for management measures, be they planning designations or built projects.

Another component of the Marine Stewardship Area Project illustrates the MRCs recognition of the value of historical knowledge and the recognition of people and their activities as part of the marine environment. An oral history project has begun to document historical changes in regulations, use, and marine resources. Observations and recollections are compared and compiled with existing scientific data to complete a compelling picture of the Marine Stewardship Area over time.

Forage fish spawning habitat pilot restoration projects and data use

To build on data collection efforts, the San Juan MRC funded Friends of the San Juans to host pilot restoration projects in cooperation with property owners. Four projects designed to restore critical surf smelt spawning habitat have been completed. Hundreds of trees were planted to provide shade and stabilize banks. More than thirty volunteers have helped to install, water, and monitor the plantings.

To further protection of nearshore areas, the MRC worked with Friends of the San Juans, the San Juan Preservation Trust and the San Juan County Land Bank by compiling and providing data on forage fish spawning beaches, eelgrass beds, and shoreline conditions. The Trust and Land Bank then developed conservation priorities for fee simple and easement acquisition of privately-owned nearshore habitat areas.

Photo: Friends of the San Juans.

Communication and leadership

The San Juan MRC enjoys a close and mutually supportive relationship with its Board of County Commissioners. The Board uses the MRC as its sounding board for all issues having to do with marine resources. The MRC is asked for recommendations on marine project proposals. In 2005, the MRC was designated the lead for the salmon recovery process in San Juan County. All projects submitted for funding to the State's Salmon Recovery Funding Board are first evaluated and ranked by the MRC.

San Juan County has begun to update its comprehensive plan under the state's Growth Management Act and is revisiting the boundaries of its urban growth area designations. Recognizing the critical nexus between marine ecosystem health and upland land use, the MRC has started to develop comments and recommendations related to how designations will affect the marine environment.

SKAGIT COUNTY

Skagit Bays restoration blueprint

From its inception, the Skagit MRC has been focused on collecting and consolidating comprehensive information about the state of its shoreline. To that end, the MRC funded People for Puget Sound to conduct Rapid Shoreline Inventories (RSIs) for county shorelines during previous project years. Rapid Shoreline Inventories were designed to gather information about the relationships between shoreline land use and indicators of beach health. To build on these efforts during 2003 and 2004, the MRC worked with People for Puget Sound to develop a 'blueprint' for restoring key parcels of county shoreline. Using information from the RSI as well as information from forage fish spawning surveys, the Skagit Bays Restoration Blueprint was developed. This blueprint identifies high priority restoration sites using a systematic process taking into account biological, social, political, and economic information. It can be used as a tool to work with governments and local organizations to improve nearshore habitat.

Spartina removal

The Skagit MRC was also very active in restoration of nearshore habitat. The MRC worked with a number of different partners to help eradicate invasive *Spartina*. Working with seven other partner organizations and many volunteers, the MRC removed the invasive grass from one third of an acre at the McGlinn Island causeway of the Swinomish Channel. This area is now cleared and available for natural recruitment of native species.

Photo by Paul Dinnel.

Shade vegetation planting

The Skagit MRC worked with the City of Anacortes and the Skagit Conservation District to ensure that a shoreline trail project constructed by the City would benefit the nearshore environment. Existing native vegetation was preserved and 75 additional plants were installed to enhance shading of forage fish spawning beaches and provide habitat and beach stabilization in Fidalgo Bay. To evaluate the effectiveness of this nearshore restoration project, systematic monitoring of the beaches will be accomplished in the future, to assess the relationship between shade and forage fish egg survival.

Creosote debris removal

The Skagit MRC recognized the importance of removing creosote-laden logs from its beaches. During this reporting period, the MRC trained and organized volunteers to perform an inventory of logs on 100 miles of county beaches. A removal project, in partnership with the Washington Department of Natural Resources followed. Over 75 tons of creosote-laden logs were removed from Skagit County beaches. This project was successful, in part, because of the amazing effort by over 30 volunteers who donated more than 500 hours of time to get the job done. This project received widespread news coverage, with featured articles in the *Skagit Valley Herald*, the *Anacortes American*, and the *Guemes Island Evening Star*.

Photo by Paul Dinnel.

Riprap replacement and restoration of tidal flows

In cooperation with the Samish Tribe and private landowners, the MRC is helping to fund a project to restore beach spawning habitat and relieve erosion on down-current beaches and bluffs in the Freestad Lagoon vicinity. The project, currently in its planning and monitoring phases, will replace existing riprap with soft armoring and shade vegetation and open a freshwater lagoon to tidal flows.

Monitoring fish use in Lone Tree lagoon

The Skagit MRC is also active in salmon recovery activities. The Skagit MRC is working with the Swinomish Tribe to monitor salmon and marine fish use of the Lone Tree pocket lagoon before and after a restoration project is completed. The project involves replacing a culvert that is blocking fish use of the stream entering the Lone Tree lagoon. The data generated by this project will help assess the effectiveness of the project. This monitoring funded by the MRC is a strong example of the MRC's commitment to science and data collection to inform management decisions.

Olympia oyster seeding and monitoring

The Skagit MRC has focused a lot of attention on local shellfish. During this report period the MRC augmented previous plantings of Olympia oysters in Fidalgo Bay. In partnership with the Samish Nation and Puget Sound Restoration Fund, the MRC also constructed an artificial reef of rocks and clean oyster shells in Fidalgo Bay as an experiment in raising the native oyster. Monitoring is being conducted to determine the effectiveness of this artificial habitat. In 2002 and 2003, volunteers sowed 90,000 Olympia oyster seeds in southeast Fidalgo Bay. In 2004, 162,000 seed were planted to augment 2002 planting. Monitoring of each years plantings is ongoing and initial results indicate a 70% survival rate for the native oysters (Dinnel, et al. 2005).

Pacific oyster seeding

Skagit MRC members continued to monitor the progress of Pacific oyster seed that they had planted at March's Point and Bay View State Park in Padilla Bay in previous years. The MRC joined forces with local tribes on this project. The goal is to provide harvesting opportunities for both tribal and recreational harvesters once oysters reach the legal harvest size. The project also gives the MRC an opportunity to educate the public on the importance of water quality for shellfish harvesting.

Monitoring rocky reef habitat

The first priority adopted by the Skagit MRC when it began in 1999 was bottomfish recovery. After much effort that included public meetings, scientific workshops, and intense study, the MRC identified eight rocky reef sites in Skagit County that could be effective bottomfish recovery areas. Since that identification, the MRC has monitored these 'candidate' sites regularly to document bottomfish use and habitat quality. During this report period, sixteen dive transects were completed: two on each recommended candidate site. These data will serve as baseline data to monitor changes in bottomfish populations and habitat relative to any management measures that might be adopted (Weispfenning et al. 2004).

Public education

In addition to hosting informative speakers at its monthly meetings, the MRC was active in 2004 in the Marine Ecology Day in Anacortes, reaching up to 100 people with information about the county's marine resources.

Snohomish County
Marine Resources
Advisory Committee

SNOHOMISH COUNTY

Dungeness crab stewardship

Dungeness crab was one of the first marine species the Snohomish MRC focused on after its establishment in 1999 because of concern over the dramatic increases in harvest rates. After completing a crab stewardship plan, the MRC focused a three-pronged approach to crab stewardship: removing crab-killing derelict gear from County waters, educating crabbers about proper harvesting techniques, and researching the life history of the Dungeness crab in Snohomish waters.

Photo by NWSC.

Derelict fishing gear removal

In a joint project of the Snohomish MRC and the Northwest Straits Commission, a derelict gear survey and removal project was conducted in Port Gardner in summer, 2004. The sidescan sonar survey covered 90% of the fishing ground to depths of 120 feet. A total of 842 derelict gear items were identified. This represents a density of 136 items per square kilometer. There are likely many more commercial pots at greater depths. The survey was followed up with removal of 169 derelict crab pots and rings (and one shrimp pot) from Port Gardner. A third of those pots were still actively capturing and killing Dungeness crab.

"Rot" cord education

One effective method to insure that lost gear does not continue to catch and kill crab over time is to use "rot" cord in the pot cage. Rot cord will disintegrate when submerged in salt water over a long period of time allowing pots to open and crabs to escape. Of the crab pots recovered in the derelict gear removal project, only 56% were equipped with rot cord, meaning that crabs were continually captured in the gear. In 2005 the Snohomish MRC began implementing a pilot education campaign to encourage recreational crabbers to use rot cord. Educational cards were produced and distributed to recreational crabbers at popular crabbing and fishing sites in the County. These cards explain harvest information and have an actual sample of rot cord stapled to the card. Crab stewardship posters were also placed at beaches in Edmonds and Mukilteo.

Juvenile Dungeness crab survey protocol

Photo by NOAA.

In order to increase the understanding of the life history of Dungeness crab, the MRC worked with the Tulalip Tribes and WDFW to develop protocol for a survey of juvenile Dungeness crab habitat in Snohomish County waters. The survey will be conducted in 2005.

Nearshore candidate sites for protection and restoration project

The Snohomish MRC wants to look at restoration of the County's nearshore habitat with an understanding of where and how restoration can make the most difference. To do this, the Snohomish MRC implemented the Snohomish County Nearshore Candidate Sites for Protection and Restoration Project. This multi-year project involved compilation of existing data on the Snohomish County nearshore. Data collected through MRC and the

Northwest Straits Commission projects were used, as well as data from other sources. Using established guidance for assessing nearshore restoration projects developed by the Puget Sound Nearshore Partnership (Fresh, et al. 2004), the MRC created an objective methodology to identify and rank candidate sites. The methodology developed for this analysis uses existing geographic information system data in a relatively simple three phase process to comprehensively screen the entire shoreline for potential nearshore protection and restoration values. The results of the project include narrative candidate site descriptions and project options for ten nearshore areas (Edwards et al. 2005).

Nearshore habitat restoration projects and creosote debris removal

In 2004, the Snohomish MRC worked with the County's Native Plant Steward to implement a nearshore enhancement pilot project at Kayak Point Regional County Park. The project included removing non-native backshore vegetation and planting native vegetation, placing logs to protect plantings, and erecting temporary educational signs.

In 2005, the Snohomish MRC focused a lot of attention on the state of the nearshore and riparian habitat at Picnic Point County Park. This site includes 1000 feet of public beach access, a pocket estuary with a large bed of eelgrass and forage fish spawning grounds. The park also includes the lower watershed of Picnic Creek. In 2005 the MRC completed a Picnic Point Long Term Stewardship Plan to provide a road map for future habitat restoration projects. To begin implementation of this Plan, the MRC partnered with Snohomish County Parks Department on the removal of 755 pounds of creosote logs and debris at the park.

Also at Picnic Point Park, the MRC organized four ivy pulling volunteer events. Over 2.5 tons of English Ivy were removed from the park's nearshore habitat. Working with the Stilly-Snohomish Fisheries Enhancement Task Force and other partners, garbage and debris were removed from Picnic Point park.

Public education

The MRC's signature educational events are Beach Expos that they conduct every summer on the beaches in Snohomish County. In 2004 and 2005, the MRC hosted four Expos each summer at three popular beaches during low tide. The Expos typically reach hundreds of community members with education about the County's marine resources. The Beach Expos also include interpretive beach walks. Partners for these events include the Edmonds Beach Rangers, the Tulalip Tribes and many others.

The MRC also organized a class on the nearshore and estuaries for the County's Watershed Keeper program. This program educates citizens in a series of educational classes on Snohomish County's environment. After the classes are completed, each participant agrees to volunteer time on community projects. The MRC also partnered with University of Washington Friday Harbor Research Laboratory and local high school students to produce an underwater video of Port Gardner and Port Susan. The Snohomish MRC is also actively involved in the development of a Snohomish/Skagit Beach Watcher Program, modeled after the successful Island County Beach Watcher program.

Communication and data distribution

Each year, the MRC provides updates of its activities, priorities, and recommendations to the County Council. It also distributes any data it collects to County agencies and salmon recovery planning groups. For example, the nearshore candidate sites analysis data was included in the Stillaguamish, Snohomish, and Cedar-Sammamish salmon recovery plans.

WHATCOM COUNTY

Birch Bay clam surveys

Whatcom County is an important shellfish producing county in Washington State. Unfortunately, some of the County's shellfish harvesting areas are closed to harvesting because of degraded water quality. Others are threatened, or at risk of being closed. The Whatcom MRC is committed to educating the public about shellfish and also to restoring shellfish populations and improving water quality in shellfish harvesting areas.

In the summer of 2004, the MRC coordinated clam surveys in Birch Bay, Semiahmoo Spit, and Chuckanut Bay areas. Protocols were adapted from WDFW and over 25 volunteers helped with the surveys. The information gathered through these surveys is shared with community members and used to describe how shellfish areas can be protected for generations to come. In addition, these data will be used to help identify potential clam enhancement and restoration sites. As part of this survey project, the Whatcom MRC began working with a consultant to assess opportunities for native clam enhancement or restoration (Whatcom County Marine Resource Committee 2005).

Photo by Whatcom MRC.

Experimental stormwater catchment basins

The Whatcom MRC also conducted an experimental project aimed at reducing water pollution in Drayton Harbor, an area closed to shellfish harvesting because of degraded water quality. The MRC worked closely with one of its strongest partners, the Port of Bellingham, to study fecal coliform contamination in the Blaine Marina. Degraded water quality at the marina is contributing to the closure of Drayton Harbor. After careful study of where the pollution was coming from, five experimental stormwater catchment planters were installed on a large building in the marina where birds were known to roost. The planters were designed to capture roof runoff and filter out pollutants. Results from this project will inform future efforts to address pollution from roof runoff in the marina.

Public education

The Whatcom MRC regularly participates in community events such as the Birch Bay discovery Days and the Drayton Harbor Shellfish Open House. Hundreds of community members are reached at these events. The MRC also coordinated the nearshore component of the Nooksack Recovery Team's Salmon Summit, which attracted 300 attendees. The MRC co-sponsored a shoreline property owners' workshop in Chuckanut Bay. The workshop, put on by the Puget Sound Water Quality Action Team, covered best management practices that shoreline owners could implement to improve and protect the natural habitat function of their properties. The MRC also organized a Marine Resources Summit, an all day event that educated 75 participants about the marine resources in Whatcom County.

The marine life fact sheets that the MRC created are important tools for educating the public about the rich diversity of marine life in the county's waters. In 2004 over a thousand of these fact sheets were distributed to the public. The marine life fact sheet page of the MRC website is one of the most often visited by website users.

The Whatcom MRC regularly tracks how its website is being used. With assistance from Washington State University's Cooperative Extension, the MRC is able to monitor which pages are most popular and how many visitors use its website. During this report period, the MRC's website received an average of 1675 unique visitors a month.

Data compilation and map creation

The Whatcom MRC is committed to make sure the scientific data it collects are compiled with existing data and disseminated in a way accessible to anyone interested. Toward that end, the MRC has created a series of data maps which include marine reaches, bathymetry/drift cells, intertidal vegetation, presence of fish, shellfish and marine mammals, substrate, shellfish beds, shellfish closures, salmon fishing areas, creosote logs, and zoning. These maps are displayed on easy to navigate pages of the MRC's website. The data used to create the maps is also available on the website.

Surveys of rockfish habitat

Building on the 2003 Whatcom County Bottomfish Project, the Whatcom MRC funded rockfish dive surveys at two sites in 2004. This information will be used to help identify areas of focus for further community education, data collection, and/or recommendations to the fisheries co-managers regarding priority bottomfish populations and habitat for protection.

Photo by Jim Ramaglia.

Submerged aquatic vegetation survey

The Whatcom MRC also turned its attention to the importance of submerged aquatic vegetation (SAV), such as eelgrass and bull kelp. During 2004, the MRC funded a survey of SAV along the Cherry Point reach between Neptune Beach and Point Whitehorn. Submerged aquatic vegetation functions as rearing and forage habitat for many important species such as salmon, forage fish, and Dungeness crab. The health of SAV in the Cherry Point area is particularly important because a stock of Pacific herring (*Clupea harengus pallasi*) spawns exclusively along this shoreline (Fairbanks et al. 2005). Methodology used for the survey followed that used in earlier projects in Island and San Juan counties. In planning this project, the MRC coordinated with the Whatcom County Water Resources and Planning staff and staff for the Shoreline Management Plan update and Salmon Recovery Plan in order to insure the usefulness of the data for local planning efforts.

Forage fish spawning habitat survey and video creation

Whatcom MRC wrapped up its Forage Fish Spawning Survey Project in early 2004. During the life of the project, more that 130 survey sites were sampled. Approximately 4100 feet of previously unknown surf smelt spawning habitat was documented. These data have been distributed to Whatcom County and the City of Bellingham planning departments. An educational video about forage fish was produced and disseminated.

NORTHWEST STRAITS COMMISSION

Role and Projects

The Northwest Straits Commission provides guidance and offers resources to the MRCs. Like the MRCs, the Commission uses the performance benchmarks to guide and evaluate its work.

The Commission's principal work is to:

- Direct and coordinate scientific, technical and financial support to the MRCs.
- Provide focus on the overall health of the Northwest Straits marine ecosystem.
- Develop and propose scientifically sound recommendations to existing governmental authorities.

The Commission organizes one major training conference annually for all MRC members and the Commission. In 2003 the focus of the conference was summarizing current project information and preparation for the evaluation process. The 2004 conference was focused on developing a strategic work plan and getting familiar with new benchmarks. The Commission also hosts semi-annual meetings for the chairs and lead staff of each MRC. Commission staff also coordinates all meetings of the Commission, as well as the work of the Executive, Tribal, Education and Technical committees. Every month, the Commission meets in a different Northwest Straits county and at least one meeting per year is at a tribal facility in order to help provide opportunities for MRC members and other community members to attend meetings. The host county MRC provides pertinent presentations to the Commission.

The Commission regularly takes on projects with obvious regional scope. During this report period, the Commission implemented two ongoing projects and initiated a third.

Derelict fishing gear removal

Derelict fishing gear includes nets, lines, crab and shrimp pots and other equipment that is abandoned or lost in the marine environment. There are hundreds of tons of derelict fishing gear in Puget Sound. Much of it continues to collect and kill fish, shellfish, marine birds and mammals. Derelict gear smothers marine habitats and prevents access to the habitat. Derelict nets also capture and kill salmon en route to spawning streams. Not only are fish and invertebrates at risk, marine mammals and marine birds are also endangered by derelict fishing gear.

Photo by Dept of Natural Resources

Because of the harm derelict fishing gear poses to marine habitat, wildlife, and people, the Northwest Straits Commission initiated a long-term comprehensive program to rid Puget Sound of derelict fishing gear. The Commission and the Washington Department of Fish and Wildlife first adopted guidelines in November 2002. These safety and prioritization protocols were developed as a key part of this project. Since then, the Commission has implemented removals in all seven Northwest Straits counties and is making considerable progress. The key elements of the project include:

- Surveys: Surveys are conducted to locate concentrations of derelict fishing gear, which are entered into a database of known locations.
- Database: Locations of derelict gear are entered into a database, which now contains over 2,500 entries. Maps are created from the data. Sample maps can be viewed at www.nwstraits.org/

projects-derelictgear.html.

- Photos and video: Photos and video footage from gear removal operations show that rocky reef habitat tangled with gear is practically barren of the lush growth expected in such areas.
- Removals: Natural Resources Consultants is the Project Manager for the on-going removal of derelict fishing gear, working with commercial vessels and surface-supplied air divers. Removal projects occurred in waters of every Northwest Straits county. As of early February 2005, over 87 days were spent on the water removing gear. Results and findings from the removals include:

  - 686 derelict crab, shrimp and octopus pots/traps removed
  - 260 nets removed covering over 72.6 acres of habitat (3.15 million sq. ft.)
  - Over 350 entangled fish, including salmon and rockfish
  - Over 600 live and dead crab, including Dungeness and red rock crabs
  - 4 dead marine mammals
  - 90 dead marine birds

- Reporting system: Washington Department of Fish and Wildlife continues to host a toll-free Reporting Hotline at 1-800-477-6224 and a Derelict Fishing Gear Project Web site at www.wdfw.wa.gov/fish/derelict a reporting form available online where information about derelict gear can be reported by anyone who finds it.

The Northwest Straits Commission received funding for derelict fishing gear removal from numerous sources, including the Washington State Salmon Recovery Funding Board for derelict net survey and removal work in key salmon migration corridors. The NOAA-Community Based Restoration program funded survey and removal of all gear types and locations. Additional funds were received from the Tulalip Tribes, the Greystone Foundation and other private foundations for derelict fishing gear removal. Funding was also received from King County to mitigate the impacts of specific projects.

The Washington Department of Fish and Wildlife, with participation by the Commission, developed a *Derelict Fishing Gear Reduction Plan* which was submitted to the Washington State legislature. The Plan addresses the problem of derelict fishing gear, the solutions to derelict gear removal learned during this project and evaluates some recommendations for reduction in the future loss of fishing gear.

In 2005, the Commission's derelict fishing gear regional effort was recognized by the United Nations. The director traveled to New York to address the Sixth Session of the United Nations Informal Consultative Process on Oceans and the Law of the Sea, which was investigating issues surrounding marine debris worldwide. Eighty-eight nations were represented in the audience.

Marine protected areas project

Marine Protected Areas (MPAs) were identified as an important management tool to achieve the benchmarks established by the Commission in 2004. To better understand the extent and effectiveness of marine protected areas already in existence in the Northwest Straits, the Commission implemented a regional Marine Protected Area Project with funding from the Russell Family Foundation. The project was created to:

- identify and assess existing protected areas that include shoreline, intertidal or marine components;
- to engage area managers and owners in discussions about the marine resources of their sites; and
- to encourage management objectives which include the conservation and protection of marine habitat and species.

Marine protected areas are defined as any area of the marine environment that has been reserved by Federal, State, territorial, tribal or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein (Federal Register 2000). The Commission's project identified dozens of marine protected areas around the Northwest Straits region. The Commission developed a GIS-based inventory of all existing MPAs. This inventory included everything, from locally designated areas such as Jefferson County's No Anchor Zone to the 82 sites that make up the San Juan National Wildlife Refuge. The inventory included protected areas that have marine or shoreline resources, but are not managed for marine resources protection. For example, on San Juan Island, the National Park Service owns and manages two historical sites, English Camp and American Camp, which include seven miles of shoreline. Management plans for these sites do not include attention to their shoreline resources.

After careful review of this inventory, including understanding the management structure associated with each MPA, the next phase of the project focused on MPAs in San Juan County. This study area was chosen because of the abundance of conservation-oriented sites in the county. Nearly every state natural resource agency owns some piece of shoreline in San Juan County. Also, the county has a strong history of marine stewardship and had recently established, through the work of the MRC, a Marine Stewardship Area which includes all County waters. The sheer magnitude of conservation-oriented shoreline holdings, the intense involvement of the local community in marine conservation issues and the incredible richness of the marine ecosystem made this the ideal subject area to network sites and improve marine conservation objectives.

During the final phase of the project, managers of each of the identified MPAs in San Juan County were invited to a work session to identify opportunities for improving marine resource management. Thirty-five people representing 16 different organizations participated in the work session. After learning more about the Marine Stewardship Area goals, many managers pledged to consider strengthening the marine management strategies for their sites. Follow-up work sessions are planned. This work session was the first time many of the managers had met each other or learned about the other sites in the County (Broadhurst 2005a).

This project was recognized as a model by NOAA and Commission staff was invited to present the results of this project at a workshop hosted by NOAA's MPA Center.

Creosote debris removal

Creosoted pilings and remnants from piling projects are a continuous source of pollution to marine beaches, with damaging environmental impacts, especially to forage fish spawning areas high on the intertidal zone. Some of these abandoned pilings work their way out of the sediments and wash up on the beaches as "rogue" logs. Many of these rogue logs remain on the beaches, leaching a chemical soup that includes polycyclic aromatic hydrocarbons for years, poisoning valuable beach habitat and biota important to the salmon food chain (Whatcom County Marine Resource Committee 2005).

Photo by Paul Dinnel.

Creosote debris inventory and removal began in Whatcom County through a partnered project with the Whatcom MRC, the City of Bellingham and the Department of Ecology. The concept and methods were picked up and modified by the Skagit MRC and then became a regional project priority that is being coordinated through the Commission in partnership with the Department of Natural Resources. The NWSC recognized the regional nature of this problem and is taking steps to secure support and funding for large-scale removal projects that will build on the projects already completed in the Northwest Straits region. The first order of business was to educate other agencies and scientists about the problem and the Commissions interest in taking action to remove creosote debris.

Commission staff presented a paper about creosote inventory and removal at the 2005 Puget Sound Georgia Basin Research Conference (Broadhurst 2005b).

The Department of Natural Resources also identified creosote pollution as priority and has partnered with the Skagit MRC and Jefferson County on removal projects. Funds have been set aside by the Commission to further address this problem. More funding is being sought in order to address comprehensive inventory and removal efforts on a regional scale.

Tribal projects

The NWSC solicited proposals from Puget Sound treaty tribes for projects considered to be high priority to the tribes. Two projects were funded through this process.

- The Port Gamble S'Klallam tribe requested $10,000 to design and install interpretive signs to educate the public about the value of local marine resources, the importance of conservation, and the methods used in the Dosewallips Estuary Restoration Project to improve natural system functions. Port Gamble S'Klallam Tribe, Washington Trout, State Parks and others created a restoration project at the mouth of the Dosewallips River, located in Dosewallips State Park. The interpretive signs describe the estuary restoration activities.

- The Skagit River System Cooperative (SRSC) received $38,000 to expand the geographic scope of the Skagit Bay pocket estuary research and conduct preliminary investigations into the restoration potential of these unique habitats in several regions. Working in coordination with 4 other tribes, the SRSC explored patterns of salmon use of pocket estuaries by sampling for juvenile salmon at a series of locations during their migration cycle. Data from this project are proving important to understand how young Chinook rely on small, pocket estuaries during migration from the Skagit River. Other funding sources contributed to this study as well.

Project planning has begun through the Northwest Straits Commission's Tribal Committee for a 2005 tribal project that will focus on using tribal knowledge to demonstrate the severe status of marine environmental problems to decision makers. Several tribes and the Northwest Indian Fisheries Commission will be involved.

Chapter 3

Partnerships

Partnerships are one of the keys to the Initiative's successes. The Commission and MRCs work with partners as they conduct scientific surveys, implement restoration projects, and host education events. Of significant note is the relationship the MRCs have built with local tribes over the years. Puget Sound Treaty Tribes are co-managers with the state of Washington for management of fisheries and the habitat upon which these species rely. Currently, an inclusive and positive relationship with tribes exists. The Commission and the MRCs include tribal representatives in their membership. In the last two years, this tribal participation has continued to grow and strengthen the effectiveness of the Initiative.

In addition, local, state, and federal government agencies have stepped up to provide staff, expertise, materials, and funding for the Initiative. The Puget Sound Action Team has assigned staff to provide support to all MRCs and contributes invaluable staff time to the Commission and many of its projects. University of Washington's Washington Sea Grant Program has had continuous representation on the Commission since its beginning and provides in-kind support on many levels, from publications assistance to employee administration. Washington Department of Fish and Wildlife, Department of Natural Resources and the Governor's Office all support the Initiative in a variety of ways. Most county governments in the Northwest Straits region provide funding for staff support of the MRCs and many cities in the region also support the MRCs when possible or partner on project activities.

The scientific community has always been a cornerstone of the Initiative. Scientists from Battelle Laboratory, UW Friday Harbor Laboratory, Peninsula College, UW Washington Sea Grant Program, Western Washington University's Shannon Point Laboratory, SeaDoc Society, Washington Department of Fish and Wildlife, Department of Natural Resources, Puget Sound Action team and others worked to ensure projects stay firmly rooted in sound science and that results are monitored and data are disseminated. University of Washington's Friday Harbor Laboratory donated free use of its Centennial Research Vessel and Remotely Operated Vehicle to each MRC during this report period.

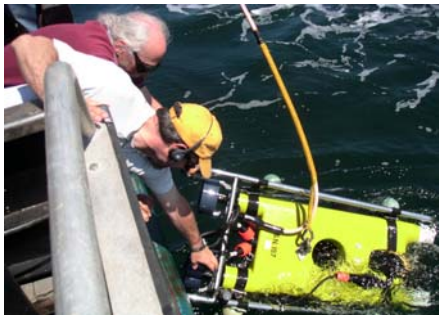

Photo by Skagit MRC.

Non-profit organizations such as People for Puget Sound, Island County Beach Watchers, Port Townsend Marine Science Center, Friends of the San Juans, Puget Sound Restoration Fund and other groups have donated time and expertise to help the Initiative maintain forward progress towards its goal and benchmarks. Foundations such as the Russell Family Foundation and the Marjorie Mosher Schmidt Foundation have added financial resources to projects.

Businesses and commercial enterprises, including local ports have also recognized the importance of the work being done through the Initiative. Local businesses were crucial to the success of the Jefferson County's Eelgrass Protection Project, and local businesses contributed money and fuel to help Island MRC host its celebratory cruise in Saratoga Passage. Ports are represented on nearly all MRCs and are frequent project partners. Many of the private consulting firms employed by the MRCs and the Commission have gone above and beyond their paid responsibilities to make each project a success.

Initiative funding for annual action grants and administration of the Commission is provided by the National Oceanic and Atmospheric Administration, and administered by the Department of Ecology. The Commission staff is housed at the Padilla Bay National Estuarine Research Reserve, a facility administered by the Department of Ecology. Tremendous support is provided by Padilla Bay for fiscal management, contract administration and a myriad of other needs.

Summary and Regional Connections

any of the projects of individual MRCs are applicable in other areas of the Northwest Straits. Indeed, many MRCs eagerly borrow and adapt successful projects from other counties. This cross-feeding of efforts creates added efficiencies and increases the regional benefit of county projects. One strength of the Initiative is the ability of local MRCs to implement projects that are specifically tailored to and needed in their own community. For example, the Jefferson MRC No Anchor Zone Project and the Clallam MRC's work with the Elwha Dam Removal Project are unique to their community. Other projects can be borrowed and adapted to other locations. For example, the Island County Shore Stewards Program is currently being replicated in Jefferson, Kitsap and Mason Counties. Skagit MRC's Blueprint Project has inspired similar project ranking efforts in Snohomish, and more are planned in San Juan, Island, and Jefferson Counties.

The regional scope of the many MRC projects is easy to see. The Olympia oyster seeding projects conducted by Clallam, Jefferson, and Skagit MRCs resulted in a total of 642,000 seed planted during this report period. This makes a total of 1.2 million seed planted since 2002 in those counties.

The Beach Watchers program was recognized as a great model in Island County and efforts to expand Beach Watchers to the rest of the Northwest Straits counties were supported by the Commission. Hiring of Beach Watchers coordinators occurred in 2005 and initial training programs for volunteers began. Beach Watcher programs and volunteer work are being coordinated with MRC projects and will further expand opportunities for restoration and conservation work.

Probably the most impressive effort of regional scope that the MRCs have accomplished is that of educating their communities about marine resources. In some areas, such as San Juan and Island Counties, this education takes on a new level of sophistication because of the baseline awareness of citizens in those communities and also because of other educational programs active there. In other counties, such as Snohomish and Skagit, where much of the past environmental education has focused on salmon and stream ecosystems, the MRCs have made enormous strides in creating understanding and ownership of the marine resources in their communities. These education programs are involving local people whose own attitudes and actions are key to the region's future.

The projects and programs of MRCs and the Commission in just a two-year time period illustrate why the Northwest Straits Initiative has been haled as an achievement in bottom-up, citizen-driven conservation. What is most exciting about the projects and activities of the MRCs and the Commission is that there are new projects, but also there are major efforts to use data and information from earlier projects. The data collected in the initial Forage Fish Spawning Habitat Survey Project, completed in 2003, are being used in a variety of ways: to inform permitting decisions, to educate landowners, to identify and implement shoreline restoration projects, and to develop criteria for establishing greater habitat protection. Likewise, data generated through eelgrass mapping projects and bottomfish habitat surveys are informing management decisions and providing justification and impetus for greater habitat protection. Several MRCs are compiling all the data they have generated into useful maps, reports and databases.

The successes of the Northwest Straits Marine Conservation Initiative are many, but its challenges are constant. The MRCs and the Commission have established themselves as a major force in the protection and restoration of the Northwest Straits ecosystem. With the power of local decision-making and local ownership, combined with the scope of a regional framework, they have shown how much can be accomplished. They will continue to fine tune their approach to meeting the goals and benchmarks of the Initiative. They will continue building on the strengths of each project, creating a lasting legacy of sound science and thoughtful, educated citizens.

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APPENDIX A

NORTHWEST STRAITS MARINE CONSERVATION INITIATIVE STRATEGIC PLAN 2005

GOAL

Protect and restore the marine waters, habitats and species of the Northwest Straits region to achieve ecosystem health and sustainable resource use by

- designing and initiating projects that are driven by sound science, local priorities, community-based decisions and the ability to measure results;
- building awareness and stewardship and making recommendations to improve the health of the Northwest Straits marine resources;
- maintaining and expanding diverse membership and partner organizations;
- expanding partnerships with tribal governments and continuing to foster respect for tribal cultures and treaties;
- recognizing the importance of economic and social benefits that are dependent on marine environments and sustainable marine resources.

BENCHMARKS

Marine Habitats

Protect and restore marine, coastal and nearshore habitats, prevent loss and achieve a net gain of healthy habitat areas by

- protecting habitats from human activities that cause degradation;
- designing and implementing local and regional projects that restore natural processes;
- surveying and mapping marine resources and physical characteristics of marine habitats; and
- making policy and scientifically-based recommendations about appropriate management tools to protect marine habitats, including designation of marine protected areas.

Marine Life

Protect and restore marine populations to healthy, sustainable levels by

- identifying and carrying out actions to protect and restore species of concern including marine mammals, birds, fish, shellfish and other invertebrates;
- designing and implementing projects to restore native marine plant and animal populations and preventing the introduction and spread of invasive species;
- rebuilding populations of fish species, particularly bottomfish, shellfish and forage fish; and
- making policy and scientifically-based recommendations about appropriate management tools for species recovery, including designation of marine protected areas.

Marine Water Quality

Protect marine water quality of the Northwest Straits region, and restore the health of marine waters by

- working to reduce the input of contaminants, including toxic substances, to Northwest Straits marine waters;

- promoting management actions that would restore areas experiencing degraded water quality and sediment contamination; and
- designing and supporting projects that will restore and maintain marine waters clean enough for safe marine harvest and consumption.

Sound Science

Collect high quality data and promote its use and dissemination by

- developing protocols for the collection, analysis and use of scientific data that supports Northwest Straits goals;
- identifying gaps in data that limit protection and restoration efforts and work to fill those gaps;
- promoting the development of comprehensive, accessible, marine resource databases;
- promoting the consistent collection and coordination of data to assist the efforts of Northwest Straits and its partners in protecting and restoring habitats and species of concern; and
- translating and disseminating scientific information about local marine resources to management agencies and the public.

Education and Outreach

Promote stewardship and understanding of Northwest Straits marine resources through education and outreach by

- informing the public about threats to living resources and presenting them with practical measures they can take to prevent further harm;
- coordinating outreach and education programs with other organizations and evaluating their effectiveness;
- engaging the public in active stewardship opportunities through community workshops, restoration projects and educational programming; and
- communicating the status of Northwest Straits habitats and resources to regional policy makers and resource managers.

Implementation

These goals and benchmarks will be used to guide the development and implementation of workplans that have specific and measurable objectives by the Commission and individual MRCs.

Vision of the Initiative in 3-5 years

In the next 3-5 years, the Northwest Straits Initiative will be an increasingly effective citizen-based organization working in partnership with many organizations to protect and restore the waters and resources of the Northwest Straits region. The Initiative will be fully funded and work in close coordination with a staffed Northwest Straits Foundation.

The Commission and MRCs will accomplish meaningful education, restoration and conservation projects and will achieve measurable results that protect and restore the marine environment.

Implementation Plan

Priority actions to be taken by the Commission (organizational/admin.)

- Increase communication with other organizations with special emphasis on businesses and watershed groups
- Increase communication and participation of elected officials, tribal officials and agency directors
- Create a NWS Foundation growth and development committee to attract increased financial resources
- Coordinate the collection of data that are useful to MRCs
- Provide opportunities for interns to gain experience and educational benefit NWSI
- NWSC staff will attend MRC meetings on a regular basis
- Review status and effectiveness of existing committees
- Assist with the creation of new programs modeled after the Initiative

Priority actions to be taken by the Commission (science/ecology)

- Identify and set priorities for regional projects that satisfy the needs of the Initiative. This list should be updated on a biannual basis
- Develop detailed plans for priority projects that include evaluation and dissemination of the results
- Implement priority projects as funds become available.
- Organize scientific meetings that meet the needs of the Initiative including the 2005 science gaps workshop and updated report
- Provide scientific support to MRCs to maintain the quality of project proposals, planning, implementation and reporting
- Develop and implement a robust plan to collect baseline data that furthers the Initiative benchmarks
- Document results in order to assess progress towards benchmarks

Priority actions to be taken by the Commission (education/outreach)

- Disseminate information about emerging scientific issues relevant to the Commission (such as the creosote log removal project)
- Provide access on-line for educational materials of importance to the Initiative
- Provide training on evaluation methods for education projects
- Increase work with the media and provide assistance to MRCs on marketing, press releases and related topics
- Develop educational materials for target audiences about the Commission's current marine issues and projects.

Priority actions to be taken by individual MRCs (organizational/admin.)

- Plan strategically to ensure that project and volunteer resources are used effectively to further the needs of the Initiative and local governments
- Ensure that projects and activities are linked with new beachwatcher programs
- Ensure that adequate staffing is available in order to carry out priority projects
- Develop an annual joint meeting with a neighboring MRC in order to share information
- Provide scientific support to MRCs to maintain the quality of project proposals, planning, implementation and reporting

- Develop and implement a robust plan to collect baseline data that furthers the Initiative benchmarks
- Document results in order to assess progress towards benchmarks

Priority actions to be taken by the Commission (education/outreach)

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- Develop an annual joint meeting with a neighboring MRC in order to share information

Priority actions to be taken by individual MRCs (science/ecology)

- Use demonstration projects to show results and transfer information to the public and other organizations
- Collect consistent baseline data
- Focus action projects on priorities identified in the MRC and Initiative strategic plans
- Consider project activities in coordination with neighboring MRCs in order to address ecological connections and needs in the region

Priority actions to be taken by individual MRCs (education/outreach)

- Ensure that action projects support behavior change in citizens and visitors that support the purpose of the Initiative
- Work closely with local media to ensure that the Initiative and MRC project results becomes widely known
- Develop evaluation methods and implement them for all MRC projects