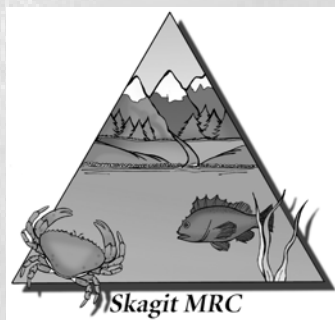


# Derelict Gear Inventory in Skagit County Waters: Phase I Final Report

April 2003



Skagit County Marine Resources Committee

Prepared by Michelle L. McConnell and Jim Ramaglia

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**GIS Mapping:** Kim Berry, Skagit County Geographic Information Services

### Figures:

1. Map of Northwest Straits Region – Northwest Straits Commission
2. Map of Derelict Gear Locations in Puget Sound – Natural Resources Consultants, Inc.
3. Map of Potential MPA Candidate Sites – Skagit Co. GIS

### Photos:

Page 5, top to bottom – NWSC, NOAA, NOAA, NOAA, NOAA

Page 7, top to bottom – Dept. of Natural Resources (DNR), NWSC, DNR

Page 9, bottom – Wayne Palsson, WDFW

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360/336-9400 or [www.skagitcounty.net](http://www.skagitcounty.net) and follow links to Public Works Department



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## Table of Contents

### *Page*

4	<b>Introduction</b>
4	Figure 1. Map of Northwest Straits Region
5	<b>Derelict Fishing Gear – Problems &amp; Solutions</b>
7	<b>NWSC Derelict Gear Removal Project</b>
8	Figure 2. Map of Derelict Gear Locations in Puget Sound
9	<b>Skagit MRC Derelict Gear Inventory Project</b>
9	<i>Project Goals</i>
10	Figure 3. Map of Potential MPA Candidate Sites
10	<i>Accomplishments &amp; Challenges</i>
13	<i>Recommendations</i>
15	<b>Conclusion</b>

## **Bibliography**

## **Appendices**

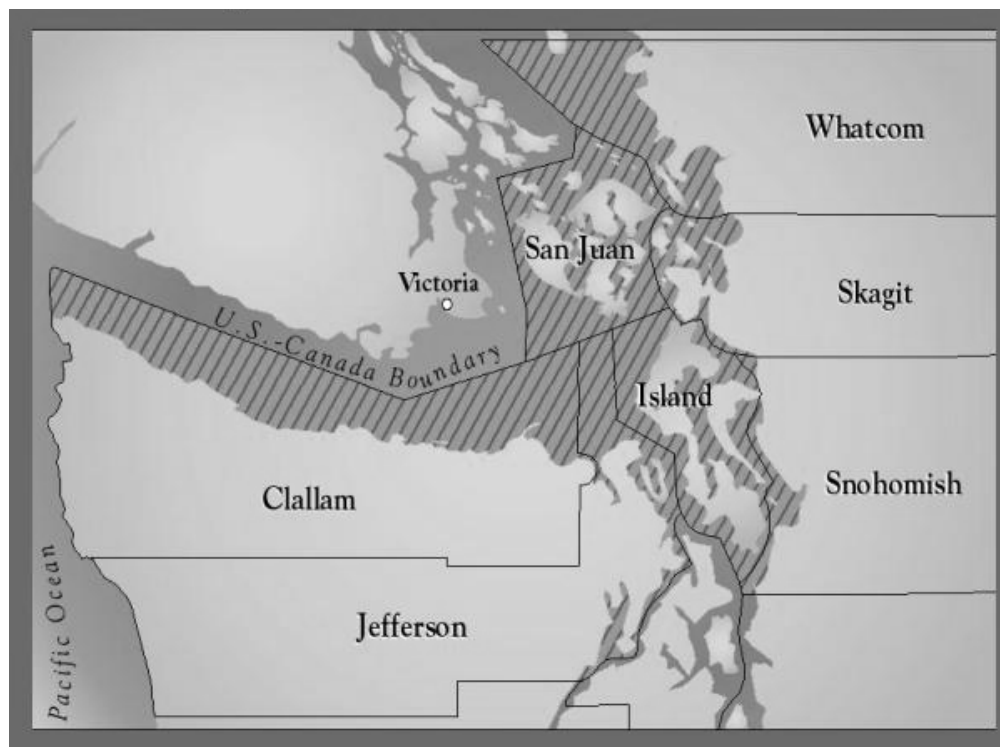
- A. NWSC Derelict Fishing Gear Removal Project Brochure
- B. Skagit MRC Derelict Gear Inventory Project Brochure Insert
- C. Skagit MRC Derelict Gear Inventory Project Display Board
- D. Skagit MRC Derelict Gear Inventory Project Slideshow
- E. Letter to Project Mailing List of Interested Citizens
- F. Project Information Posted on Skagit County Website
- G. Letter to Editor – Northwest Dive News
- H. Letter Sent Via Email to Local Divers
- I. Press Coverage

## Introduction

Recreational and commercial fishing equipment often gets lost or purposely abandoned in the marine ecosystem, including the waters of Skagit County and all of Puget Sound. Left unattended, this derelict fishing gear continues to harm the sealife it was designed to harvest, as well as non-target species like seabirds and marine mammals. Derelict nets, pots and other gear also pose hazards to people working and recreating in the marine environment. Such gear can entangle and harm divers & swimmers, boat propellers & rudders, and active fishing gear. This dangerous marine debris also damages habitat and decreases the natural aesthetic beauty above and below the waterline – fouling rocky reef areas and sensitive nearshore habitat.

The Northwest Straits Commission (Commission or NWSC) began a regional effort last year to locate, identify and remove derelict fishing gear from Northwest Straits region of Puget Sound (See Figure 1). The Skagit County Marine Resources Committee (Skagit MRC) strives to complement the Commission's gear removal and public outreach efforts by taking a proactive approach to identifying and prioritizing local derelict gear for future removal.

**Figure 1.** Map of Northwest Straits Region



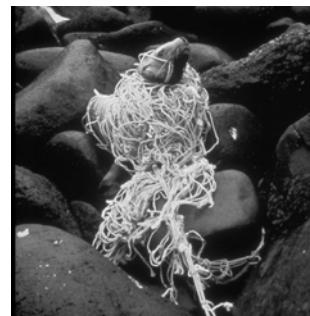
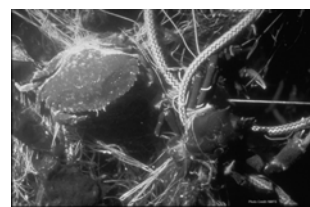
## Derelict Fishing Gear – Problems & Solutions

One reason derelict fishing gear is such a problem is that since about the 1940's, harvest equipment has mostly been made out of synthetic materials – primarily plastics. This means that the gear does not decompose quickly, making it very long-lasting marine debris. Some research estimates for the decomposition of monofilament fiber in seawater are as much as 600 years, whereas traditional fishing equipment was primarily made of natural plant fibers that break down more quickly. Derelict gear types include:

- Nets – gill nets, trawl nets, purse seine nets, aquaculture materials (i.e. fish farm net pens)
- Pots/Traps - crab & shrimp; individual or multiples on a line
- Lines – monofilament, lead lines, float lines, wire cables
- Other – jigs, flashers, weights, hooks, trawl doors, downrigger wire and lead balls

Another reason derelict gear is such a problem is that it poses so many hazards to both people and wildlife. For example:

- Divers and swimmers become entangled in nets and lines. The monofilament line of a gillnet is nearly invisible in the water, but a very strong fiber that is hard to break through, even with a knife.
- Fish and shellfish, as well as seabirds and marine mammals, get trapped and injured or killed in derelict nets and pots. In addition, dead animals attract scavengers causing a perpetual series of unintended mortalities.
- Derelict gear in the marine ecosystem reduces the quality of, and access to, important marine habitat. Nets draped across rocky reef habitat prohibit rockfish, lingcod and other species from utilizing the cracks and crevices as refuge from predators. Nets also filter sediment out of the water thereby smothering the benthic plants and animals that grow in these typically rich areas. Pots and nets in nearshore areas can negatively impact the eelgrass and kelp beds that are critical to ecosystem function and marine organism lifecycles.
- Vessels of all sizes – from small outboard skiffs to large commercial and military vessels – experience damage to rudders & propellers when caught on submerged nets or lines resulting in costly repairs. This



entanglement also endangers the vessel's crew, passengers and cargo by hampering navigation and can cause capsizing, especially for small crafts.

- And, derelict gear can snag active fishing gear that's being used thereby perpetuating the problem. Some underwater pinnacles in Puget Sound are said to have dozens of nets layered one atop the other – evidence of many individuals experiencing this repeated problem.

In order to address the problem of derelict fishing gear, the State Senate passed Bill 6313 in January 2002. This legislation called for several things:

- Department of Fish & Wildlife is identified as the lead agency and is required to work with the Northwest Straits Commission and other agencies/organizations to address the derelict gear issue;
- Guidelines & protocols must be developed for safe and effective removal methods;
- Regulatory barriers are to be eliminated (i.e. extensive permitting previously required); and
- Develop ways to prevent further losses of fishing gear to reduce the derelict gear problem.

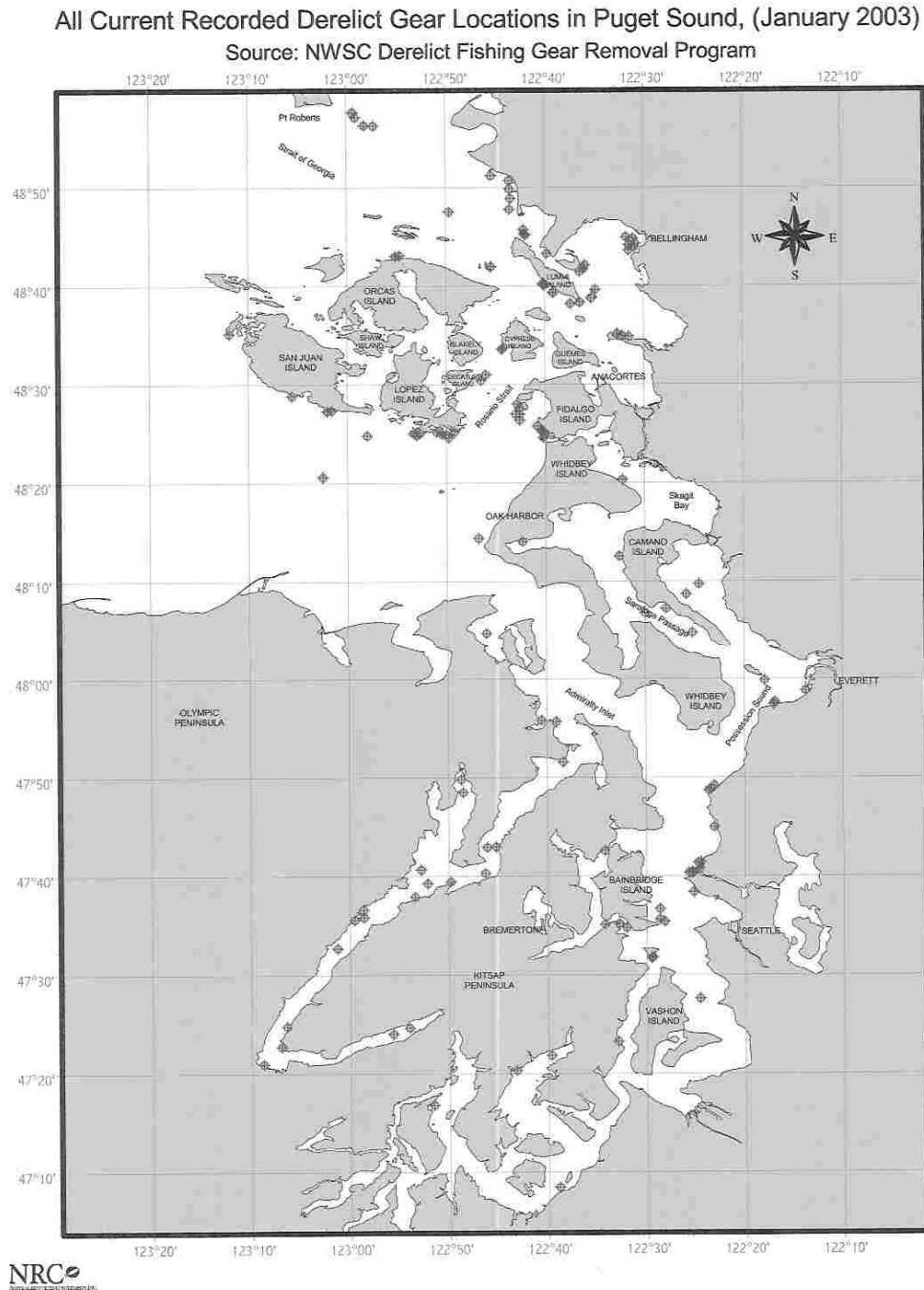
Soon after SB6313 was passed, the NWSC secured federal funds, as well as in-kind service and cash donations from various partner groups, in order to start their regional project. In addition, the Hood Canal Salmon Enhancement Group has been working towards removal of derelict nets from the waters of Hood Canal in southern Puget Sound.

## NWSC Derelict Gear Removal Project

The first year of the Northwest Straits Commission Derelict Fishing Gear Removal Project focused on recovery of derelict gear, the implementation of a public reporting system, and a media campaign to educate the public. The *Derelict Fishing Gear Removal Guidelines* were developed, tested, published and then adopted by both the Commission and the Washington Department of Fish & Wildlife (WDFW). Gear locations were surveyed and mapped, showing several sites in Skagit County waters (See Figure 2). Additional gear locations are suspected in local waters, and all of Puget Sound, as the surveys were not comprehensive. Four gear removal operations were completed by state and contracted dive teams. Over 10,000 pounds of derelict gear were recovered, including nets and pots removed from locations near the southern tip of Lummi Island, some of which were located in Skagit County waters.



**Figure 2.** Map of All Reported Derelict Gear Locations in Puget Sound



Outreach materials including a brochure (See Appendix A), a poster, a slideshow presentation and two project websites were developed. The NWSC website has project information at [www.nwstraits.org](http://www.nwstraits.org), and the WDFW website has project information at [www.wa.gov/wdfw/fish/derelict](http://www.wa.gov/wdfw/fish/derelict). In addition, a Reporting Hotline and Reporting Form were established for use by the public and by agency personnel to report derelict gear observed in the marine environment. The toll-free hotline phone number is 1-800-477-6224, and the reporting form is available to download and print from the WDFW website.



## Skagit MRC Derelict Gear Inventory Project

**Project Goals** - With the intent of enhancing and coordinating local derelict gear removal efforts with the NWSC regional project, the goals of the Skagit MRC Derelict Gear Inventory Project are to:

1. Educate the public about derelict gear and its dangers to people and marine resources.
2. Create a place to which the public can report the location of derelict gear.
3. Identify the location of derelict gear (and other significant marine debris) in the waters of Skagit County and create an inventory.
4. Set priorities on the removal of derelict gear and coordinate this effort with the NWSC project.
5. Report to the public about progress being made on derelict gear removal.



One of our highest priorities for this project is to identify derelict gear locations in proposed rocky reef marine reserve areas in Skagit County. The Skagit MRC has been engaged in a process for three years to recommend establishment of rocky reef marine reserves for protecting bottomfish populations and their broodstock. During Phase I public meetings of the Rocky Reef Bottomfish Recovery Project, local fishers repeatedly called for locating and removing derelict gear – especially lost gillnets – that act as real or potential deathtraps for our local marine resources including rockfish, lingcod and other species (McConnell et al. 2001). These citizens strongly feel that the success of marine reserves for bottomfish would be negatively affected by the presence of derelict gear.

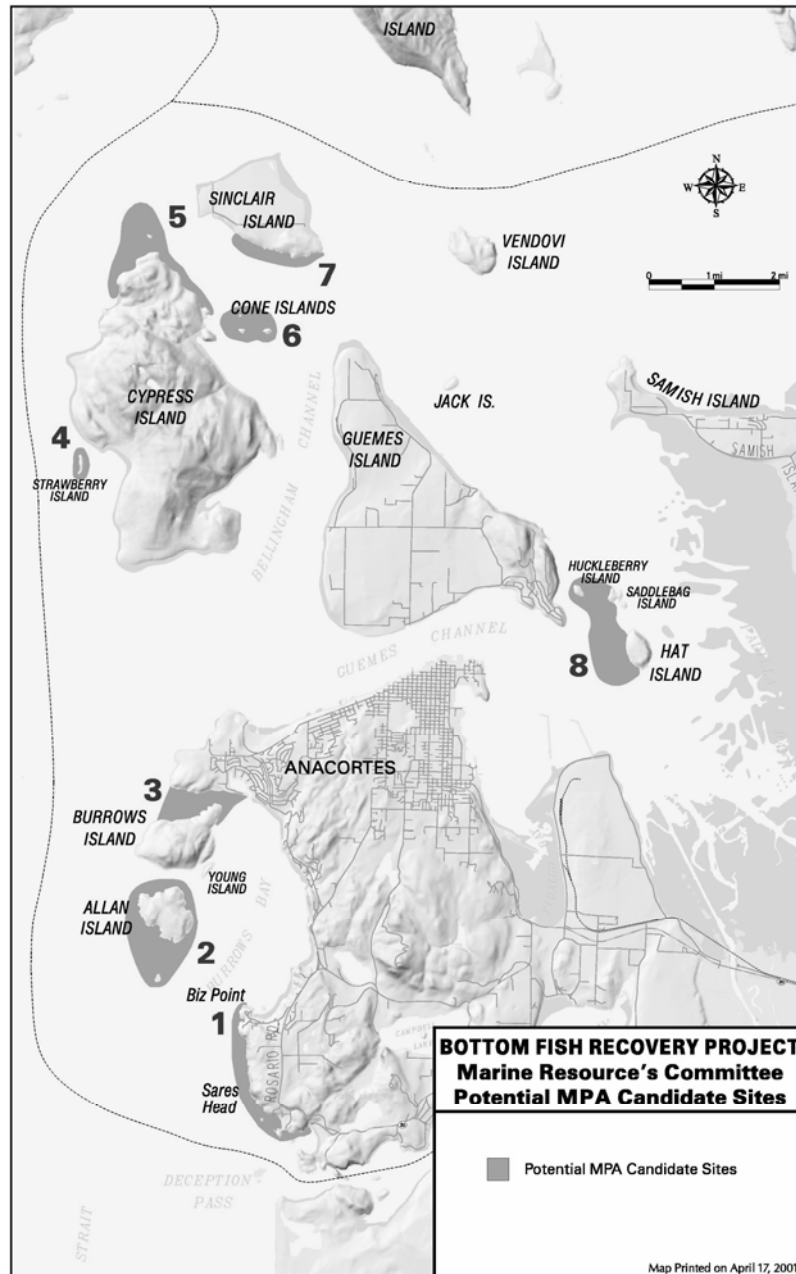


Therefore, this inventory project takes special interest in the proposed bottomfish marine reserve locations at:

- Rosario Area
- Allan Island
- North Cypress Island
- South Sinclair Island
- Strawberry Island
- Burrows Channel

No reserve is recommended at Cone Islands or Padilla Bay Islands at this time (See Figure 3). By identifying the location and type of any derelict gear present at these important sites, the Skagit MRC hopes to gain priority status for authorized removal of the gear. Such removals are important to bottomfish recovery efforts and will improve marine habitat that supports at-risk species.

**Figure 3.** Map of Proposed Bottomfish Marine Reserve Sites in Skagit County



**Accomplishments & Challenges** – Our first phase of the Skagit MRC Derelict Gear Inventory Project focused on educating divers, sport and commercial fishers, boaters, beach goers and other marine enthusiasts about the derelict gear issue and encouraging them to report known derelict gear locations to us rather than the WDFW. Outreach materials were developed and a public meeting was convened to inform the community about the derelict gear issue and removal efforts. The Skagit MRC also established partnerships with local businesses to

increase the convenience of public reporting of derelict gear locations and gave informational presentations to local groups.

A brochure insert was developed and placed inside the NWSC Derelict Fishing Gear Removal Project brochure (See Appendix B) for distribution to the public. The insert was designed as a two-color rack card that can also serve as a stand-alone publication. The insert describes the reasons and benefits for local emphasis of the regional project, identifies the potential bottomfish marine reserve sites as areas of interest, and encourages the public to report derelict gear by attending a public meeting, by submitting a reporting form at a local “drop box” location, or via phone or internet using the numbers/addresses listed.

The Skagit MRC display board was revised to include panels describing the derelict gear problem, and the group’s inventory project (See Appendix C). The panels describe derelict gear and the hazards posed to people and wildlife and explain the importance of identifying derelict gear in local waters, especially noting the bottomfish reserve sites as areas special concern.

A Power Point slideshow was developed using materials provided by the NWSC (See Appendix D). This slideshow defines derelict fishing gear, the hazards it poses to people, marine habitat and wildlife, what’s being done to address the issue at the state, regional and local level and includes descriptions of both the NWSC and Skagit MRC projects.

A challenge experienced with the development and delivery of these outreach materials was the delay resulting from schedule changes with the NWSC project. Because the brochure insert, display and slideshow, and therefore the public presentations, depended on information and materials from the Commission, efforts by the Skagit MRC and the project contractor were postponed. This delay meant that the prime season for outdoor recreation was missed, and local boaters, fishers and divers were less accessible to the project. Outreach materials and presentations for the Skagit MRC project originally scheduled for completion in July and August of 2002 were postponed until November 2002 through January 2003.

In order to educate the community, especially target audiences such as boaters, fishers and divers, a public meeting was organized for the evening of December 12, 2002 at the Anacortes City Hall. A letter was sent to the project mailing list of some 70 interested citizens inviting their participation (See Appendix E). A news release was written and submitted to the County’s communications department for distribution to local media.

The information was posted on the County website with a link button on the homepage for optimal visibility (See Appendix F). Unfortunately, public attendance at the event was nearly zero. The news release information had not reached the local newspapers in time for publication due to a key staff member's absence from the office. The slideshow presentation was delivered to the MRC members present and the one interested citizen who attended. This small group was very engaged in the presentation and some quality dialogue resulted, however, the lack of public participation was a disappointment.

Additional presentations were made to inform various partner groups in the community and to solicit their support including the Fidalgo Chapter of Puget Sound Anglers, the local Toastmasters, Kiwanis, Sunrise Rotary and Noon Rotary groups, all of Anacortes. Total attendance at these presentations was approximately 150 and additional interest in the project was generated. More presentations are being planned for other groups of interest including the local chapter of Recreational Boaters Association of Washington, local dive clubs, the Port of Skagit, Port of Anacortes, Skagit County Parks, local Washington State Parks staff, City of Anacortes, City of LaConner, and Skagit Watershed Council.

Because the success of the project relies on public report of known derelict gear locations, the Skagit MRC aims to make such reporting convenient for the area's boaters, fishers, divers and other citizens. Partnerships were established with four local businesses so that these retail stores serve as "drop box" locations with brochures and other project information, blank reporting forms and a collection point for reporting form submittals. Anacortes Diving & Supply, Cap Sante Marina, and West Marine, all in Anacortes, each agreed to serve as a "drop box" location and indicated their interest and support in the project. In Burlington, the Holiday Market agreed to serve the same purpose for east county residents. The Skagit County Public Works Department office in Mount Vernon also serves as a "drop box" location, and receives any forms submitted by mail or reports by phone meaning that the project provides a total of 7 avenues for public reporting of derelict gear in addition to the state reporting hotline and website. MRC Derelict Gear Sub Committee Chair, Jim Ramaglia, maintains regular contact with each location to collect submitted forms, answer questions and replenish supplies.

A letter to the editor regarding the derelict gear issue - written by Jim Ramaglia - was published in the August 2002 issue of *Northwest Dive News* with a favorable response from the magazine's editor indicating support for derelict gear removal efforts (See Appendix G). That issue also featured a focus article on the derelict gear problem. In addition, Jim established an email address for project correspondence ([derelictgear@yahoo.com](mailto:derelictgear@yahoo.com)) and sent an informative letter via email to a list of local divers to encourage their participation in reporting

known gear locations (See Appendix H). Some dialogue with interested divers has resulted from these efforts. Anacortes Diving and Supply has also included a link in their web site for reporting derelict gear ([www.anacortesdiving.com/news](http://www.anacortesdiving.com/news)).

### ***Recommendations –***

In order for the Skagit MRC to continue working towards meeting two of the Northwest Straits Marine Conservation Initiative performance benchmarks – including fostering bottomfish recovery, and increasing quality habitat - we recommend continuing this derelict gear inventory project. We also support the continuation and expansion of the NWSC Derelict Fishing Gear Removal Project. As with many resource protection and enhancement efforts, the success of these projects will require various, diverse groups in the community to work together to rid Skagit County marine waters, and all of Puget Sound, of the existing derelict fishing gear and to prevent future losses.

The Skagit MRC makes the following, specific recommendations:

### **Outreach**

Continue efforts to inform the public about the derelict gear issue and to urge public reporting of known derelict gear locations via:

1. Presentations to local recreational boating, diving, and fishing groups as well as industry and governmental organizations including use of slideshow upcoming NWSC derelict gear video, and print materials.
2. Skagit MRC participation (display board, brochures, etc.) at public events such as street fairs and local festivals, especially in localities adjacent to the marine environment

### **Funding for Removals**

The NWSC has laid the groundwork by establishing the adopted Removal & Disposal Guidelines, and a public reporting system. Skagit MRC has provided local enhancement of these efforts by targeting key groups of our community and by facilitating the public reporting process. Two important steps remain – remove the existing gear from known locations, and identify unreported derelict gear. The latter of these will be accomplished by continued public outreach and the maintenance of the existing reporting system. The former will require financial support, therefore, the Skagit MRC recommends the following:

1. Funds should be allocated for actual removal of derelict gear from Skagit waters, especially in the vicinity of our proposed bottomfish marine reserve sites. Such funding may come from NWSC, federal, state, county or municipal governmental agencies, private businesses, civic groups, charitable foundations, or other sources. The MRC seeks sponsors for specific removal operations.

## Conclusion

Derelict fishing gear in Skagit County marine waters presents a significant threat to human safety and causes unintended sealife mortalities. In some areas, derelict gear obstructs or entirely blocks access to potentially high quality habitat for various marine organisms, including bottomfish, salmon and other species. Removal of existing gear at known locations should be a priority in order to restore critical and sensitive habitat, especially in areas currently proposed as bottomfish marine reserves. Continued education and outreach efforts to inform the local interest groups that are most likely to come across or be adversely affected by derelict gear are important. Increased levels of public reporting will speed the overall clean-up effort, and help protect and restore vital marine resources. Continued efforts by the NWSC to address the derelict gear issue on a regional basis are critical to the Skagit MRC Derelict Gear Inventory Project, and our Rocky Reef Bottomfish Recovery Program.

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McConnell, M.L. and P. Dinnel. 2002. Rocky reef bottomfish recovery in Skagit County: Phase II final report: Assessment of Eight Potential Marine Reserve Sites & Final Site Recommendations. Final Report by Skagit Marine Resources Committee for Northwest Straits Commission. 29 pp. + appendices.



Appendix A:  
NWSC Derelict Fishing Gear Removal Project Brochure



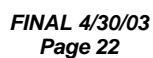
Appendix B:

Skagit MRC Derelict Gear Inventory Project Brochure Insert



## Appendix C:

### Skagit MRC Derelict Gear Inventory Project Display Board



Appendix D:

Skagit MRC Derelict Gear Inventory Project Slideshow





Appendix E:  
Letter to Project Mailing List of Interested Citizens

**Appendix E.** Letter to Project Mailing List of Interested Citizens

November 20, 2002

Dear [Name],

Due to your previous interest in the Skagit County Marine Resources Committee (MRC) and our **Rocky Reef Bottomfish Recovery Project**, we want to inform you that the **Phase II Final Report** is now complete and available for review at local libraries and at the Skagit County Public Works front desk.

Following Phase I of the project completed last year, Phase II further evaluated the 8 potential marine reserve sites for bottomfish recovery in Skagit County waters. After additional public input and technical review of the data, the MRC recommends a marine reserve at either the Rosario or Allan Island area, a reserve at the North Cypress, South Sinclair or Strawberry Island area, and a reserve at Burrows Channel. We urge the resource co-managers (State & Treaty Tribes) to consider these locations for reserve implementation.

The MRC is also working on a new project related to bottomfish recovery. The **Derelict Fishing Gear Inventory Project** will be presented at a public meeting on *Thursday, December 12 at 7:00 pm in the Anacortes City Hall* council chambers. Learn more about the history and hazards of derelict nets, pots and more, and find out how you can help rid local marine waters of this dangerous and damaging marine debris by reporting derelict gear locations.

We look forward to your continued interest and participation!

Sincerely,

Skagit MRC,  
Bottomfish Sub-Committee,  
Derelict Gear Sub-Committee

Appendix F:  
Project Information Posted on Skagit County Website



Appendix G:  
Letter to Editor – Northwest Dive News

## Appendix G. Letter to Editor – Northwest Dive News

### Letters to the Editor

Dear Editor:

As chairman of the Skagit County MRC Derelict Gear Committee, I have been following the recent articles regarding derelict gear in NW Dive News and on your website. I have a personal interest in the gear, as well, as I'm an avid diver and instructor with Anacortes Diving and Supply.

This project is not only important ecologically, it could save divers' lives as well.

So ... we need divers' help in finding and eradicating this nuisance gear, which because of its very nature, doesn't decompose sometimes for decades.

We need to stress that divers shouldn't attempt to remove gear themselves. They should make some notes with the following information and forward it to our office. We need to know the type of gear, does the gear pose any threat to divers or marine life, date the gear was found, location, GPS coordinates, location on nautical chart, the nearest landmass (including reefs), depth

found, type of bottom, the diver's name, telephone number and email address if available.

Divers can remain anonymous.

The address for the Skagit County MRC is 111 Cleveland Ave., Mt. Vernon, Wash., 98273, and the email address is derelictgear@yahoo.com.

Thanks again for your support, NW Dive News.

**Jim Ramaglia**  
Anacortes, WA

Dear Jim,

Thanks for your letter.

Our staff at NW Dive News knows the importance of the derelict gear program. We also know the time and effort that has gone into obtaining the grants to bring this project to fruition over the past two years.

We've seen the latest press coverage of the "ghost nets" that were raised in the San Juans, and we couldn't be happier to know

the message is getting around.

Derelict gear can be lethal to humans and sealife, and it is terrific that funding was secured to help remove it. Count NW Dive News as a partner to disseminate information. Although derelict gear isn't as glamorous a subject as tropical dive locales, it is twice as important. We are looking forward to an easily accessible database of affected locations.

As with any dive preparation, knowing where hazards exist is as important as making sure your gear is in tact.

We appreciate your efforts in making our waters, or playgrounds, safe.

**Editor**

**Note:** For more information about the Derelict Gear program and a better understanding of exactly what derelict gear is, see the feature story on Page 9.



Appendix H:  
Letter Sent Via Email to Local Divers

## **Appendix H. Letter Sent Via Email to Local Divers**

The Skagit County Marine Resources Committee is in the process of establishing a Derelict Gear Program. Funding for this project is through the Northwest Straits Commission. The purpose of the program is to identify the location of derelict gear and eventually remove it from the water.

Derelict gear includes nets, lines, crabpots and other equipment that have been lost or abandoned from fishing boats and other vessels. Since modern nets, lines and other fishing gear are made of monofilament plastic much of the derelict gear in the water doesn't decompose for many years or even decades.

Derelict gear poses a threat to fish, birds, shellfish and marine mammals that become entangled in abandoned nets and other gear. This abandoned gear continues fishing and killing for decades.

Of special concern to scuba divers is the danger becoming entangled in derelict gear while diving. There have been incidents of divers being entangled and drowning.

The Skagit County Marine Resources Committee would like your help in identifying the location of any gear you have encountered. Please submit as much information as possible that will assist in locating the gear in the future.

When you encounter derelict gear while diving be extremely cautious and stay clear of it. Do not attempt to remove or recover any derelict gear.

Information on the location of Derelict includes the following:

Type of Gear: (net, fishing line, crab pot)

Does the gear pose a threat to divers and marine life:

Date Found:

Location:

GPS Coordinates:

Location on a nautical chart

Landmass it is near: (name of island, reef etc)

Depth:

Type of bottom:

Your name:

Phone number:

Email Address:

If you would like your name private please let us know:

Since the program is very new we do not currently have a Phone # for reporting please send the information to the following email address.

Your participation is appreciated.

[derelictgear@yahoo.com](mailto:derelictgear@yahoo.com)



Appendix I:  
Press Coverage

