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LOAN COPY ONLY **Marine Debris:**
*How Commercial
Fishermen Can Help
Solve a Growing
Problem*

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MARINE DEBRIS SERIES

Jim Humphreys and Patti Mullin

Commercial fishermen, along with other mariners, today are faced with a serious problem—waste disposal. Plastics, boat garbage, oil, sewage, and hazardous materials can severely damage the marine environment. For this reason, recent legislation has been enacted to prohibit their disposal into marine waters. This pamphlet discusses plastic marine debris and other wastes—where they come from, what adverse impacts they can have, and how the problem can be reduced.

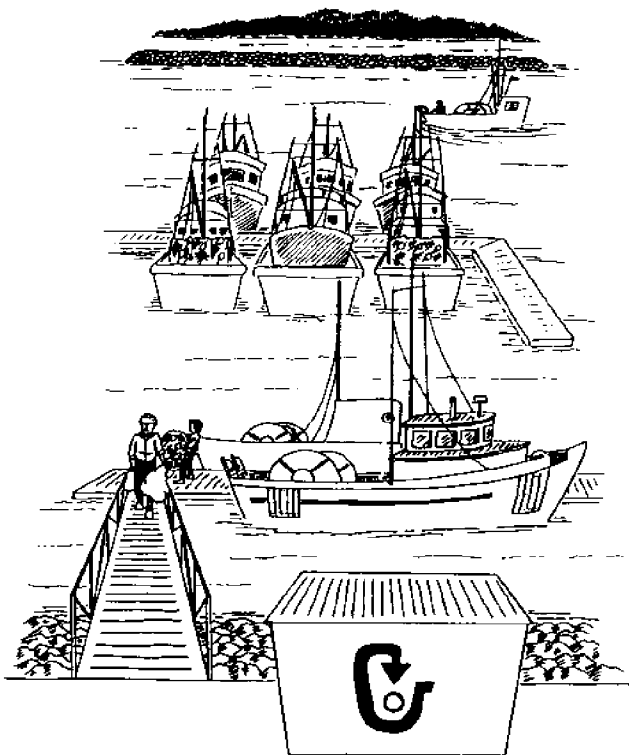
Plastics in the Marine Environment

Many plastic items are ideal for use in commercial fishing. They are lightweight, strong, long-lasting, and water-resistant. Almost every boat has net, line, rope, sheeting, food packaging, kitchenware, and other items that are made of some kind of plastic.

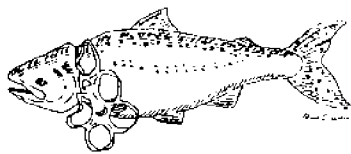
Unfortunately, however, because most plastic does not readily decompose, it can remain in the marine environment for years. Recent research indicates that more than 14 billion pounds of crew waste, gear, and cargo are lost or dumped into the oceans *every year* from vessels involved in commercial fishing, merchant shipping, recreational boating, passenger service, and government work. Little wonder that there is a problem!

Threat to Marine Life

Plastic debris threatens marine life in several ways. Fish, whales, porpoises, turtles, and sea birds have all mistaken items such as plastic bags, styrofoam pieces, bottle caps, cigarette lighters, and other plastic odds and ends for food. Once swallowed, these items can cause death through blocked passages, ulcerations, toxic accumulation, and starvation.



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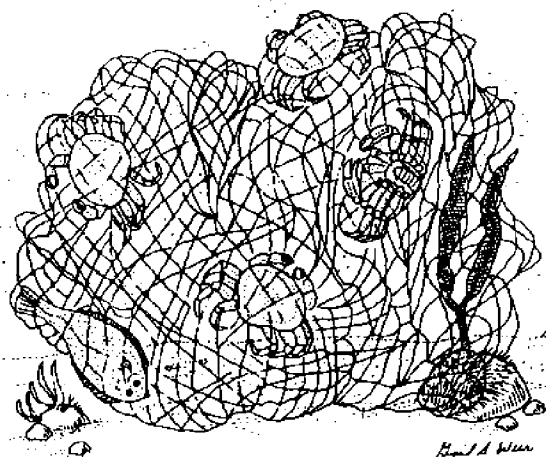
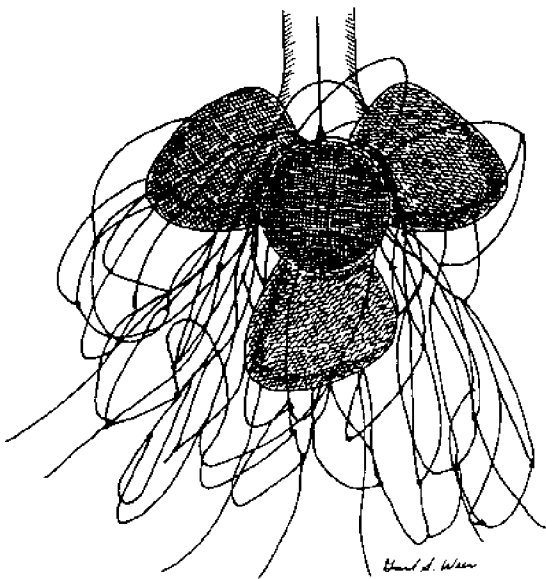
Plastic items also entangle fish, seabirds, marine mammals, and crabs. Some of the main offenders are lost fishing gear, six pack rings, and strapping bands. Animals that become entangled usually die of drowning or starvation.

Lost gear can cause problems for marine life when it continues to fish. In 1986, for example, a salmon gillnet that was "ghost fishing" in waters near Point Roberts, Washington, had entangled an estimated thousand female Dungeness crabs, and hundreds more were moving toward the net, attracted by the dead fish it contained. When lost gear continues to "ghost fish," it means that there is less of the resource available for commercial fishermen.

Safety and Economic Risks for Vessels and Crew

An encounter with marine debris at sea can be dangerous. Numerous vessels have become disabled when floating items such as plastic bags, polypropylene line, and net scraps have fouled propellers and clogged water intake valves. When a boat becomes disabled in rough seas or near shore, results can be disastrous.

Fishermen may also suffer substantial economic losses, including repair bills for propeller damage and burned-out pumps, charges for divers and dry docking, and lost fishing time. An informal survey at a recent Fish Expo indicated that 64 percent of the fishermen questioned had suffered damage from marine debris, with an average repair cost of \$1,900. Competition from lost gear that continues to ghost fish and potential governmental regulation aimed at controlling such lost gear could result in indirect economic losses.



Public Concern

Marine debris has made both oceans and beaches unsightly. Recent surveys of beaches in remote areas of Alaska, Washington, Oregon, Texas, and even Antarctica have all shown that plastics wash onto beaches in large quantities and that they remain for a long time in the marine environment.¹

You may not be part of the debris problem either at sea or on shore, but it is true that wastes from the commercial fishing fleet make up a major portion of the marine debris in some areas. As more attention is focused on the issue, the fishing industry faces a danger of being viewed by the public as abusive of the marine environment. Already a variety of legislative and regulatory policies have been introduced. Additional ones such as proposals for net marking and registration systems, bounties on return of lost net gear, and even complete bans on gillnets are being studied.

The most significant legislation aimed at the problem is the Marine Plastic Pollution Research and Control Act (MPPRCA) of 1987, which became effective December 31, 1988. It prohibits all vessels, including commercial fishing boats, from dumping plastic trash anywhere in the ocean and from disposing of unprocessed garbage within 12 miles of shore. Final regulations for enforcement of this new law can be procured from the U.S. Coast Guard. Table 1 summarizes major provisions of MPPRCA for this area.

1. Some states have initiated beach clean-up projects to deal with this problem. In Washington, the Adopt-a-Beach Program organizes clean-ups on a county by county basis. For information about becoming involved, contact: 206-296-6544 in Seattle.

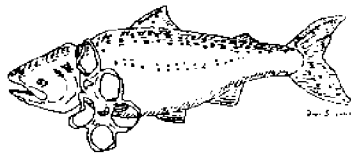


Table 1. Major provisions of MPPRCA relating to the Pacific Coast and Alaska

Garbage Type	Disposal Method
Plastics—includes synthetic ropes, fishing nets, and plastic bags	Water disposal prohibited
Floating dunnage, lining and packing materials	Water disposal prohibited within 25 miles of nearest land
Paper, rags, glass, metal, bottles, crockery, and similar refuse	Water disposal prohibited less than 12 miles from nearest land
Paper, rags, glass, etc. ground or comminuted to less than 25 mm	Water disposal prohibited less than 3 miles from nearest land
Food waste not ground	Water disposal prohibited less than 12 miles from nearest land
Food waste ground to less than 25 mm	Water disposal prohibited less than 3 miles from nearest land
Mixed refuse	Disposal reflects the requirements of the most stringent component of the mix

Other Kinds of Wastes

Plastics do not constitute the only kind of debris that is causing problems in the marine environment. Proper disposal of other wastes from your boat is also important. Improper disposal is not only illegal, but it can also harm the very resources that you as a fisherman depend on for your living. The following remarks are general, and therefore you should check with local officials in your home port for current disposal information.

Boat Garbage

Non-plastic boat garbage such as food wastes, glass, and paper should be disposed of properly on land. Table 1, as already indicated, explains under what conditions materials may be legally disposed of in marine waters. Another alternative, of course, is to use a trash compactor for boat garbage.²

2. As a public service to help solve the marine debris problem, Sears has agreed to provide galley-size trash compactors to fishermen at a discount. For more information, contact Larry Chimenti, Pacific Northwest Sales Manager, at 1-800-732-1100.

Waste Oil

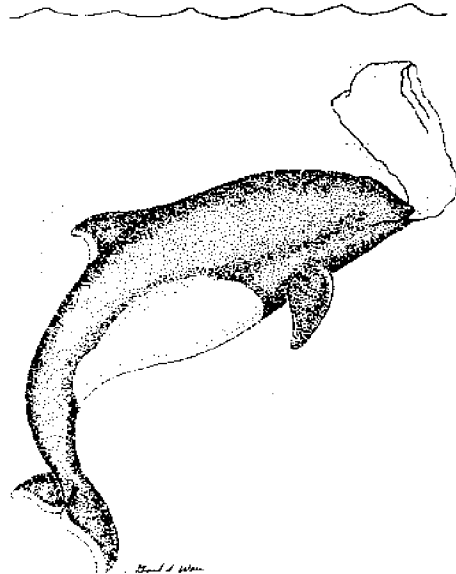
Waste engine oil should be returned to an oil recycling center. Many harbors and gas stations offer this service. In Washington State, contact the Oil Recycling Hotline (1-800-RECYCLE) for location of the nearest facility. Never mix anything with used engine oil because when mixing occurs, the resulting compound is considered a hazardous waste and is extremely expensive to dispose of properly and legally.

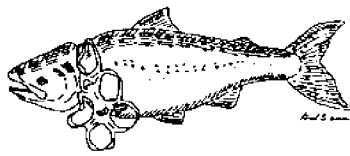
Hazardous Materials

Many materials used on fishing boats are considered hazardous and therefore they should be disposed of properly. Such materials include degreasers, acids, paint, paint thinners, fuel, antifreeze, and so on. These materials should never be thrown overboard, placed in a dumpster, mixed with engine oil for recycling, or combined with other compounds. For information on their proper disposal, contact the Washington Department of Ecology Hazardous Substance Information Office at 1-800-633-7585 or call your local public health department.

Sewage

Every vessel should have a working marine sanitation device on board. Most ports have sewage pump-out facilities. Check with the local U.S. Coast Guard office, the harbormaster, or the State Parks Boater Environmental Education Program, which makes available free maps of pump-out locations in Puget Sound. Their number in Olympia is 206-586-8592





How You Can Help

- Make it a boat policy that **no trash is dumped overboard**. Stow it where it will not get washed or blown overboard.
- Encourage your port to **provide convenient waste disposal facilities**.
- **Install a trash compactor** if you have space for one.
- **Retrieve marine debris** you encounter if possible.
- **Use bulk/refillable containers** to provision your vessel.
- **Bring net fragments, line, and other gear** you replace back to port for proper disposal.
- **Get involved and encourage other fishermen** to help solve the marine debris problem too.

A plaque entitled "Fishermen's Pledge for a Clean Ocean" can be purchased through the Highliner's Association (206-285-3480). The text, written by fishermen in the Pacific Northwest, is intended to remind crew members of their responsibility and to let others know that the owner, captain, and crew are taking an active part in maintaining a clean ocean environment.



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This brochure is one in a series on marine debris published by Washington Sea Grant Marine Advisory Services. Others in the series are:

Plastic in the Ocean: What are we doing to clean it up? by Xanthippe Augerot
Getting a Grip on Marine Debris at Squalicum Harbor, by Patti Mullin and Jim Humphreys

Plastic Marine Debris: How Recreational Boaters Can Help Solve a Serious Problem, by Patti Mullin and Jim Humphreys

Marine Debris: Get A Grip on It (a poster)

For information about ordering copies of these, contact:

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Get A Grip on Marine Debris!

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