

Dredging

What is dredging?

Fishermen drag a heavy frame with an attached mesh bag—called a dredge—along the seafloor to catch bottom-dwelling shellfish. Some dredges have metal “teeth” along the base of the frame that act like a rake. As the gear is dragged along the seafloor, it stirs up shellfish, which flow into the bag. Water, sand or mud pass through the mesh. The durable bag consists of metal rings to withstand being dragged along the seafloor.

What do dredgers catch?

Most dredgers catch scallops, clams, oysters and other shellfish that live on the seafloor or burrow into mud or sand.

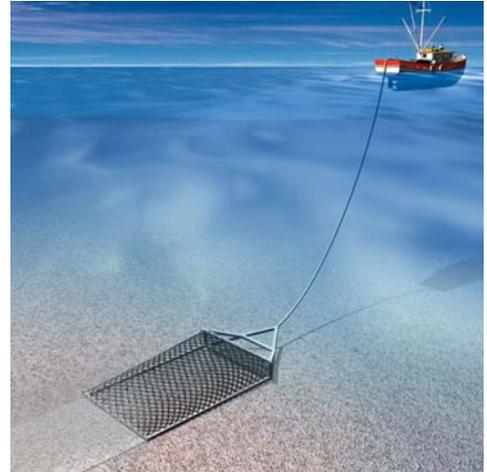
What are the issues?

Dredges cause significant **habitat*** damage when dragged along gravel and rocky bottoms. Dredges also smooth out sandy and muddy bottom habitats, removing or smothering a variety of animal and plant life.

In addition, fish, sponges and other marine life unintentionally caught as **bycatch*** are unlikely to survive under the weight of the heavy bag.

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Fishing Methods Fact Card



*Habitat

A place fish (and other animals) need to feed, breed, seek shelter and raise young.

*Bycatch

Unwanted fish and animals caught accidentally in fishing gear and discarded overboard, dead or dying.

Gillnetting

What is gillnetting?

A gillnet is a curtain of netting that hangs in the water at various depths, suspended by a system of floats and weights, or anchors. The netting is almost invisible to fish as they swim into the gillnet. The mesh spaces are large enough for a fish's head to pass through, but not its body. As the fish tries to back out, its gills are entangled in the net.

What do gillnetters catch?

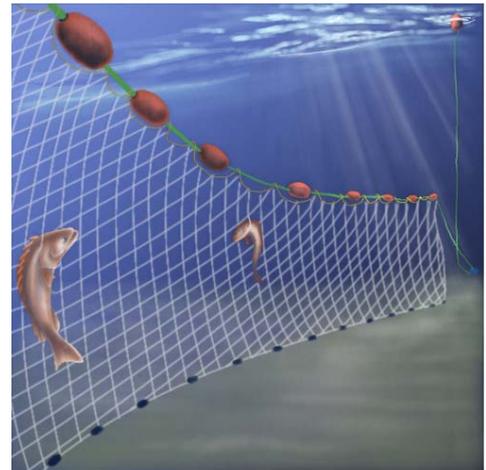
The size of a gillnet's mesh determines the type of fish it will catch. Small mesh can catch small fish like sardines. Larger mesh can entangle fish such as salmon and cod, while allowing smaller species to pass through.

What are the issues?

Gillnets entangle large numbers of marine mammals and sea turtles in addition to other marine life, resulting in a significant amount of **bycatch***. **Habitat*** damage can occur when gillnets anchored to the seafloor are hauled in and become tangled on structures such as coral and rocky bottoms.

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Harpooning

Fishing Methods Fact Card

What is harpooning?

Harpooning is a traditional method for catching large fish—and it's still used today by skilled fishermen. When a harpooner spots a fish, he or she lunges or shoots a long aluminum or wooden harpoon into the animal and hauls it aboard.

What do harpooners catch?

Harpooners catch large open ocean swimmers such as bluefin tuna and swordfish.

What are the issues?

Harpooning is an environmentally responsible method of catching fish. Bycatch of unwanted marine life is not a concern because harpoon fishermen visually identify the species and size of the targeted fish before killing it.



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Hook and Lining

Fishing Methods Fact Card

What is hook-and-line fishing?

Hook-and-line fishermen use a pole (rod) and fishing line with one to several hooks. Handliners don't use a pole—they simply hold a line in their hand. To attract fish, hook and liners use artificial lures or bait, "jigging" or jerking the line to simulate the motion of smaller fish. Sometimes they toss baitfish into the water to start a feeding frenzy among the fish. The catch is hauled in manually or with a mechanized reel.

What do hook-and-line fishermen catch?

Hook and liners target a variety of fish, ranging from open ocean swimmers, like tuna and mahi, to bottom dwellers, like cod.

What are the issues?

Hook and lining is an environmentally responsible fishing method. Fishermen can quickly release unwanted catch from their hooks since lines are reeled in soon after a fish takes the bait.



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Longlining

Fishing Methods Fact Card

What is longlining?

Longlining attracts fish with a central fishing line that ranges from one to more than 50 miles (80 km) long. This central line is strung with smaller lines of baited hooks, which dangle at spaced intervals. After leaving the line to “soak” for a time to attract fish, longliners return to haul in their catch.

What do longliners catch?

Pelagic longliners hang their hooks near the sea surface to catch open ocean fish, such as tuna and swordfish.

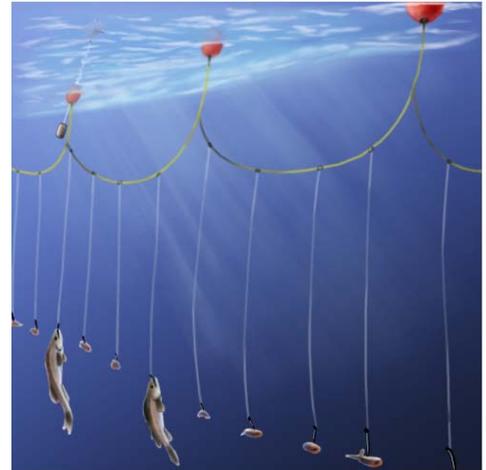
Demersal- or “bottom”-longliners float their hooks just off the seafloor to catch fish that live on or near the bottom, such as cod or halibut.

What are the issues?

The baited hooks of **pelagic*** longlines attract a variety of open ocean swimmers, such as endangered sea turtles, sharks and other fish, resulting in wasteful **bycatch***. Also, as the line is deployed into the water, seabirds dive for the bait, are ensnared on the hooks and drown.

By sinking their longlines deeper, U.S. fishermen avoid the migratory paths of sea turtles. Other innovations to reduce bycatch include the use of “circle” hooks to ease the release and survivability of unwanted species and the deployment of longlines through a chute to reduce seabird interactions.

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*Pelagic

Refers to fish and animals that live in the open sea, away from the coast or seafloor.

*Bycatch

Unwanted fish and animals caught accidentally in fishing gear and discarded overboard, dead or dying.

Purse Seining

Fishing Methods Fact Card

What is purse seining?

A purse seine is a large wall of netting that encircles a school of fish. Fishermen pull the bottom of the netting closed (like a drawstring purse), herding the fish into the center. Purse seiners either haul the net aboard or bring it alongside the boat to scoop out the fish with smaller nets.

What do purse seiners catch?

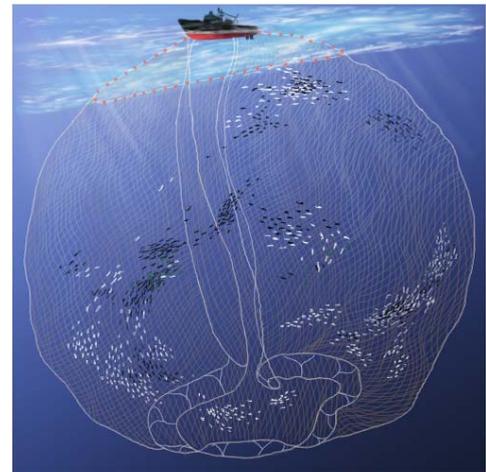
Fishermen use this method to catch schooling fish, such as sardines, or fish that gather to spawn, like squid. The most popular fish caught by purse seines are tuna used for canning.

What are the issues?

Purse seining for tuna results in large amounts of **bycatch***. For example, to locate schools of tuna, fishermen look for schools of dolphins (tunas often travel below dolphins) or set out floating objects (logs or rafts) to attract fish in the open ocean. The net encircles the school of tuna, but also catches the dolphins and a variety of other species, including sharks, sea turtles and juvenile fish.

In response to public outcry over the deaths of hundreds of thousands of dolphins, innovations have been developed to release dolphins alive—but dolphin populations have yet to recover. Scientists believe this may be due to the stress of the chase and frequent capture.

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Traps and Pots

Fishing Methods Fact Card

What are traps and pots?

Traps and pots are submerged wire or wood cages that attract fish and hold them alive until fishermen return to haul in the gear. Traps and pots may or may not be baited, and they usually lie on the bottom—either singly or in a row. A rope runs from the trap or pot to a buoy floating at the surface, so fishermen can locate their gear.

What do trap and pot fishermen catch?

Traps and pots are often used to catch lobsters, crabs and shrimp. They're also used to catch bottom-dwelling fish, such as sablefish or Pacific rockfish.

What are the issues?

Most traps and pots are an environmentally responsible method of fishing. Baited traps may attract juveniles or unintended species. However, these animals can either escape through specially designed vents or be released alive once the trap is hauled aboard.

Traps may damage seafloor habitats when large ocean swells and tides bounce the gear around. Hauling in a row of traps may also drag the cages along the seafloor, causing damage.

In addition, marine mammals can become entangled in the lines connecting the traps to the buoys. Innovations such as breakaway lines help reduce entanglements.

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Trawling/Dragging

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What is trawling?

Trawlers tow a cone-shaped net behind a boat. They tow midwater trawl nets at various depths, ranging from just below the surface to just off the seafloor. They drag bottom trawl nets along the seafloor.

Trawlers can add chains to the mouth of a net to stir fish like shrimp and flounder up off the seafloor and into the net. They can also add heavy tires—called “rockhoppers”—to help the net roll over rough, rocky seafloor areas without getting snagged.

What do trawlers catch?

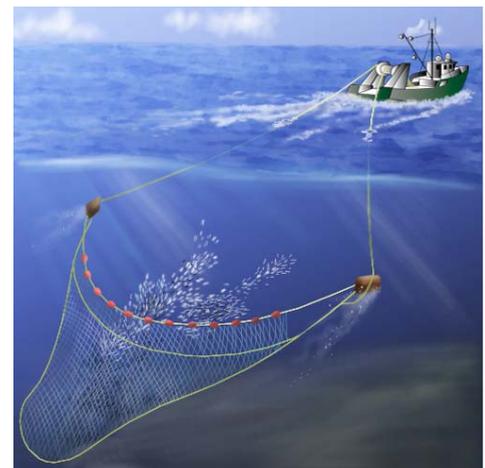
Midwater trawlers catch faster swimming schooling fish such as sardines. Bottom trawlers catch fish that live on or near the seafloor, such as cod, flounder and shrimp.

What are the issues?

Trawl nets catch everything in their path, including endangered sea turtles, juvenile fish and other unwanted species, resulting in wasteful **bycatch***. Trawlers (such as U.S. shrimpers) can reduce bycatch by adding turtle excluder devices and bycatch reduction devices to their nets, which allow sea turtles and unwanted fish to escape.

Dragging nets along the seafloor can damage or destroy fish **habitat***. Bottom trawlers can minimize habitat damage by avoiding rocky or coral habitats and ceasing the use of rockhopper gear.

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What is trolling?

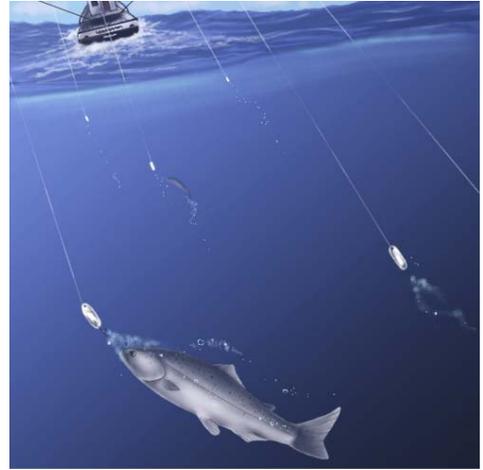
Trolling is a hook-and-line method that tows fishing lines behind or alongside a boat. Fishermen use a variety of lures and baits to “troll” for different fish at different depths.

What do trollers catch?

Trollers catch fish that will follow a moving lure or bait, such as salmon, mahi mahi and albacore tuna.

What are the issues?

Trolling is an environmentally responsible fishing method. Fishermen can quickly release unwanted catch from their hooks since lines are reeled in soon after a fish takes the bait.



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