

Seafood Harvesting Methods

Fishing Methods

Pole & Troll . . .

Fishermen use a fishing pole and bait to target a variety of fish, ranging from open ocean swimmers, like tuna and mahi mahi, to bottom dwellers, like cod. Pole/troll fishing is environmentally responsible and a good alternative to pelagic longlining. Unlike pelagic longlines, which catch sharks, marine mammals, sea turtles and seabirds as bycatch, pole/troll fishermen have very low bycatch rates.

Purse Seining . . .

Establishes a large wall of netting to encircle schools of fish. Fishermen pull the bottom of the netting closed—like a drawstring purse—to herd fish into the center. This method is used to catch schooling fish, such as sardines, or species that gather to spawn, such as squid. There are several types of purse seines and, depending on which is used, some can catch other animals (such as when tuna seines are intentionally set on schools of dolphins).

Gillnetting . . .

Uses curtains of netting that are suspended by a system of floats and weights; they can be anchored to the sea floor or allowed to float at the surface. The netting is almost invisible to fish, so they swim right into it. Gillnets are often used to catch sardines, salmon and cod, but can accidentally entangle and kill other animals, including sharks and sea turtles.

Longlining . . .

Employs a central fishing line that can range from one to 50 miles long; this line is strung with smaller lines of baited hooks, dangling at evenly spaced intervals. Longlines can be set near the surface to catch pelagic fish like tuna and swordfish, or laid on the sea floor to catch deepdwelling fish like cod and halibut. Many lines, however, can hook sea turtles, sharks and seabirds that are also attracted to the bait. By sinking longlines deeper or using different hooks, fishermen can reduce the bycatch problem.

Trawls & Dredges . . .

Are nets towed at various depths to catch fish or shellfish. Trawl nets, which can be as large as a football field, are either dragged along the sea floor or midway between the floor and the surface. Trawlers catch fish such as pollock, cod, flounder and shrimp. Bottom trawling can result in high levels of bycatch. Dredging involves dragging a heavy frame with an attached mesh bag along the sea floor to catch animals living on or in the mud or sand; catches include scallops, clams and oysters. Dredging can damage the sea floor by scraping the bottom and also often results in significant bycatch.

Traps & Pots . . .

Are submerged wire or wood cages that attract fish with bait and hold them alive until fishermen return to haul in the catch. Traps and pots are usually placed on the ocean bottom, often to catch lobsters, crabs, shrimp, sablefish and pacific cod. They generally have lower unintended catch and less sea floor impact than mobile gear like trawls.

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

Fish Farming (Aquaculture)

Open Net Pens or Cages . . .

Enclose fish such as salmon in offshore coastal areas or in freshwater lakes. Net pens are considered a high-impact aquaculture method because waste from the fish passes freely into the surrounding environment, polluting wild habitat. Farmed fish can also escape and compete with wild fish for natural resources or interbreed with wild fish of the same species, compromising the wild population. Diseases and parasites can also spread to wild fish living near or swimming past net pens.

Ponds . . .

Enclose fish in a coastal or inland body of fresh or salt water. Shrimp, catfish and tilapia are commonly raised in this manner. Wastewater can be contained and treated. However, the discharge of untreated wastewater from the ponds can pollute the surrounding environment and contaminate groundwater. Moreover, the construction of shrimp ponds in mangrove forests has destroyed more than 3.7 million acres of coastal habitat important to fish, birds and humans.

Raceways . . .

Allow farmers to divert water from a waterway, like a stream or well, so that it flows through channels containing fish. Farmers usually treat the water before diverting it back into a natural waterway. Some governments require strict regulation and monitoring of on-site and nearby water quality. In the U.S., farmers use raceways to raise rainbow trout. If untreated, wastewater from the raceways can contaminate waterways and spread disease. Farmed fish can potentially escape and compete with wild fish for natural resources. Escaped fish can also interbreed with wild fish of the same species, putting the health of the wild population at risk.

Recirculating Systems . . .

Raise fish in tanks in which water is treated and recycled through the system. Almost any finfish species, such as striped bass, salmon and sturgeon, can be raised in recirculating systems. Recirculating systems address many environmental concerns associated with fish farming—fish cannot escape, and wastewater is treated—but they are costly to operate and rely on electricity or other power sources.

Shellfish Culture . . .

Means that farmers grow shellfish on beaches or suspend them in water by ropes, plastic trays or mesh bags. The shellfish farmed using these methods—oysters, mussels, and clams—are filter feeders and require only clean water to thrive. Filter feeders can actually filter excess nutrients out of the water, but farming shellfish in high densities in areas with little current or tidal flow can lead to the accumulation of waste. Also, historically, some shellfish culture has been responsible for the introduction of exotic species that can out-compete native species for natural resources.

This information taken from the Monterey Bay Aquarium's Seafood Watch® webpage. For this and more information, please visit them at www.seafoodwatch.org