



Fish Fact Cards



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Monterey Bay Aquarium® Seafood Watch®

Seafood Watch Seafood Watch fish fact cards will help you learn about the issues that put some seafood items on our “avoid” list. When you’ve read them, pass these cards along to a friend who loves seafood. Check our website for more information like this on over 100 favorite seafood species.

www.seafoodwatch.org



Become Aware. Ocean-friendly seafood comes from sources that meet the following criteria:

- ▶ There is little environmental damage from the fishing gear or fish farming activity.
- ▶ The population being fished is healthy and abundant.
- ▶ There is little bycatch (the catching and discarding of unwanted marine life).
- ▶ The fishery or fish farm is well managed.



Key Terms

Fishery

The organized catch of a certain species of fish, in a certain geographic region.

Fish Farming/Aquaculture

Raising fish or shellfish in marine or fresh water.

Marine Stewardship Council

(MSC) The MSC rewards sustainable fisheries with the blue eco-label, as seen here:



Management

Regulating where, when and how people catch or farm fish. Fisheries are managed by either state agencies (0-3 miles offshore), federal agencies such as the U.S. National Marine Fisheries Service (3-200 miles offshore), or through international agreements (200 miles or more offshore). Fish farming is regulated by various state and federal agencies.

Bycatch

Unwanted fish and other marine life that is caught accidentally in fishing gear and discarded overboard, dead or dying.

Illegal Fishing

Not obeying fishing laws and regulations.

Overfishing

Catching fish faster than they can reproduce and maintain a healthy and abundant population.

Rockfish



Quick Fact: Overfishing

Many rockfish populations have plummeted due to decades of heavy fishing. Even when fishing stops, it may take over 100 years for these long-lived species to recover.

Make Choices for Healthy Oceans

Issues

- ▶ Some rockfish live more than 100 years and don't breed until they're 20 years old. They can't reproduce quickly enough to keep up with demand.
- ▶ Fishermen catch most rockfish with bottom-trawls: dragging large nets along the seafloor. Trawling damages undersea habitats and accidentally catches other marine life that is dumped overboard, dead or dying, as bycatch.

Location

- ▶ Rockfish are found along the Pacific Coast, from Mexico to Alaska. More than 100 species worldwide live in kelp forests, among rocky outcrops and in canyons up to 2,625 feet (800 meters) deep.

Menu Alternatives

- ▶ Pacific halibut, striped bass and black rockfish from California and Oregon are your best choices.
- ▶ Rockfish caught with hook and line from Alaska and British Columbia are good alternatives.

Other Common Names

- ▶ Pacific red snapper
Rockcod



Farmed Salmon



Quick Fact: Fish Farming

Currently, farming salmon does more harm than good. Fish escape, diseases are spread, waters are polluted and large quantities of wild fish are caught for use as feed.



Make Choices for Healthy Oceans

Issues

- ▶ Salmon feed requires an average of three pounds of wild fish to grow one pound of farmed salmon. As a result, farming salmon uses more fish than it produces, putting more pressure on our oceans.
- ▶ Most farmed salmon are raised in open net-pens where parasites and disease can easily spread to nearby wild fish and large amounts of fish waste, pesticides and chemicals are released into the environment.

Issues

- ▶ Millions of farmed salmon have escaped from net-pens. The full impact of these non-native salmon on wild salmon populations is unclear.
- ▶ As there are no organic standards for seafood in the U.S., “organic salmon” is a misleading name, often referring to farmed salmon.

Other Common Names

- ▶ All Atlantic salmon are farm raised. Some Chinook and Coho salmon are also farmed.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for farmed salmon due to elevated levels of PCBs, dioxins and pesticides. Visit www.edf.org/seafood for more information.

Menu Alternatives

- ▶ Wild-caught salmon from Alaska, including pink, chum, red, silver, and king salmon, and farmed Arctic char are your best choices.



Orange Roughy



Quick Fact: Overfishing

Fishermen catch orange roughy when the fish gather to breed and feed, wiping out entire generations at a time.

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Make Choices for Healthy Oceans

Issues

- ▶ Orange roughy may live 100 years or more and don't breed until they're at least 20 years old. Years of heavy fishing have severely reduced their populations, which may take decades to recover.
- ▶ Fishermen catch orange roughy with bottom-trawls: dragging large nets along the seafloor. Trawling damages undersea habitats and accidentally catches other marine life that is dumped overboard, dead or dying, as bycatch.

Location

- ▶ Orange roughy is caught off New Zealand, Australia and Africa, as well as in the Northeast Atlantic Ocean.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for orange roughy due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

Menu Alternatives

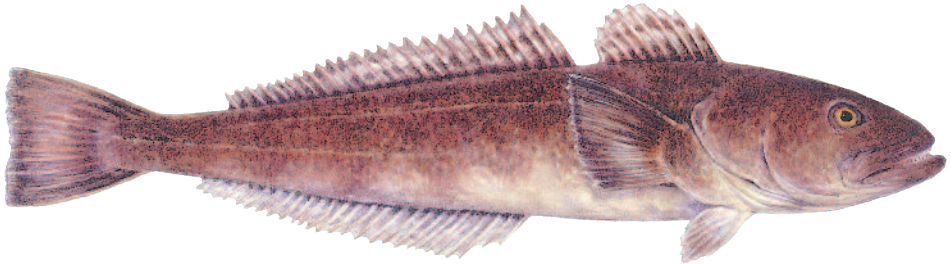
- ▶ Pacific halibut, U.S. farmed tilapia and wild-caught Alaskan pollock are your best choices.
- ▶ Pacific flounders and soles and Greenland turbot are good alternatives.

Other Common Names

- ▶ Deep sea perch
Emperor fish
Rosy soldierfish



Chilean Seabass



Quick Fact: Illegal Fishing

In just one decade, the Chilean seabass fishery has been pushed to the verge of collapse due to intense legal and illegal fishing activity.



Make Choices for Healthy Oceans

Issues

- ▶ Chilean seabass may live 50 years and breed late in life. They can't reproduce quickly enough to keep up with legal and illegal fishing.
- ▶ It is difficult to control illegal fishing because Chilean seabass are caught in the vast and remote Southern Ocean.
- ▶ In 2004, a small portion of the Chilean seabass fishery received the MSC eco-label. If you must buy Chilean seabass, be absolutely certain it carries this label.

Issues

- ▶ Due to improved enforcement, illegal fishing has been reduced. However there are still concerns about enforcement since the U.S. inspects just 2% of the fish imported each year.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for Chilean seabass due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

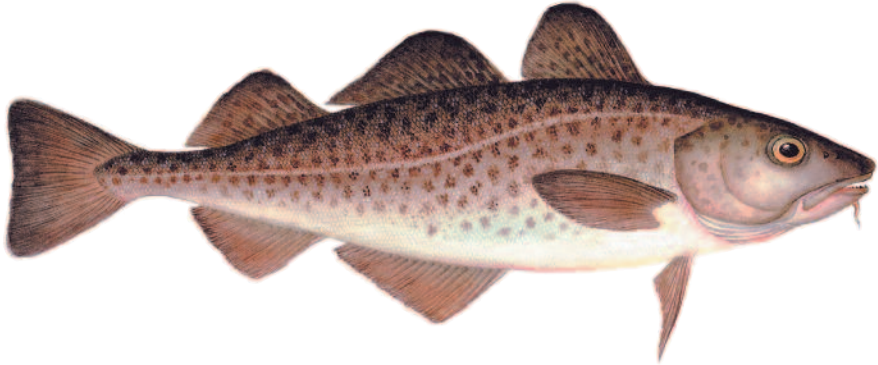
Menu Alternatives

- ▶ Sablefish, also known as black cod or butterfish, from Alaska and British Columbia is your best choice.
- ▶ Sablefish from California, Oregon and Washington is a good alternative.

Other Common Names

- ▶ Patagonian toothfish
Antarctic toothfish

Atlantic Cod



Quick Fact: Overfishing

Atlantic cod has been fished so heavily for the past 50 years that some populations are now listed as threatened or endangered.

Make Choices for Healthy Oceans

Issues

- ▶ Despite management efforts, Atlantic cod populations remain overfished. Numbers are so low that some populations are listed as threatened or endangered.
- ▶ Fishermen often catch cod with bottom-trawls: dragging large nets along the seafloor. Trawling damages undersea habitats and accidentally catches other marine life that is dumped overboard, dead or dying, as bycatch.

Location

- ▶ Atlantic cod are groundfish, living along the seafloor up to depths of 1300 feet (400 meters) on both sides of the Atlantic Ocean.
- ▶ Most Atlantic cod fished in U.S. waters are caught off New England.

Other Common Names

- ▶ Scrod
Whitefish

Menu Alternatives

- ▶ Pacific cod caught in Alaska with bottom longline, traps or hook and line gear is your best choice.
- ▶ Alaskan pollock and striped bass are also best choices.

Sharks



Quick Fact: Bycatch

Scientists estimate that millions of sharks are caught and killed each year just for their fins or are caught accidentally by fishing gear intended for other fish.



Make Choices for Healthy Oceans

Issues

- ▶ Most sharks are slow-growing fish that mature late in life and produce very few young. They don't reproduce quickly enough to keep up with global fishing pressure.
- ▶ Each year, fishermen cut the fins off more than 38 million sharks and throw the dying animals overboard as bycatch.

Other Common Names

- ▶ Many species of sharks are caught for human consumption, including mako, thresher and soupfin. Dogfish, a smaller shark, is used as a substitute for cod in fish-and-chips.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for sharks due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

Menu Alternatives

- ▶ Sablefish from Alaska and British Columbia and farmed sturgeon are your best choices.
- ▶ Wild-caught sturgeon from Oregon and Washington and U.S. mahi mahi are good alternatives.

Location

- ▶ More than 100 nations fish for sharks throughout the world's oceans.



Swordfish



Quick Fact: Bycatch

Some species of sea turtles are being driven to extinction because they accidentally get caught in fishing gear targeting swordfish.

Make Choices for Healthy Oceans

Issues

- ▶ Pelagic longlines are used to catch 85% of swordfish globally. Each year, as many as 1.4 billion hooks are deployed targeting swordfish, but the bait also attracts other marine life resulting in high levels of bycatch.
- ▶ Longline bycatch includes at least 250,000 sea turtles a year – killing thousands. This is a serious concern in the Pacific Ocean where some sea turtle populations are critically endangered.

Location

- ▶ Swordfish are found throughout the world's oceans. In addition to the U.S., more than 20 countries catch swordfish, including Brazil, Japan and Spain.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for swordfish due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

Menu Alternatives

- ▶ Harpoon or handline caught swordfish from the U.S. and Canada and sablefish from Alaska and British Columbia are your best choices.
- ▶ U.S. caught mahi mahi and swordfish are good alternatives, as gear modifications have minimized bycatch.

Other Common Names

- ▶ Broadbill
Espada
Emperador

Bluefin Tuna



Quick Fact: Overfishing

The high demand for bluefin tuna – which can sell for more than \$100,000 each in Japan – has taken its toll. The Atlantic population has declined by nearly 90% since the 1970s.

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Make Choices for Healthy Oceans

Issues

- ▶ Overfishing is still occurring on the already depleted Atlantic bluefin. They can't reproduce quickly enough to keep up with demand.
- ▶ Fishermen catch bluefin tuna using longlines, which also entangle thousands of sea turtles, seabirds, sharks and marine mammals, endangering their populations.
- ▶ Bluefin tuna migrate across oceans, making international management and enforcement of regulations difficult.

Location

- ▶ Bluefin tuna are caught in the Pacific, Atlantic and Southern Oceans and in the Mediterranean Sea. More than 31 nations, including the U.S. and Japan, are trying to manage this highly migratory species.

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for bluefin tuna due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

Menu Alternatives

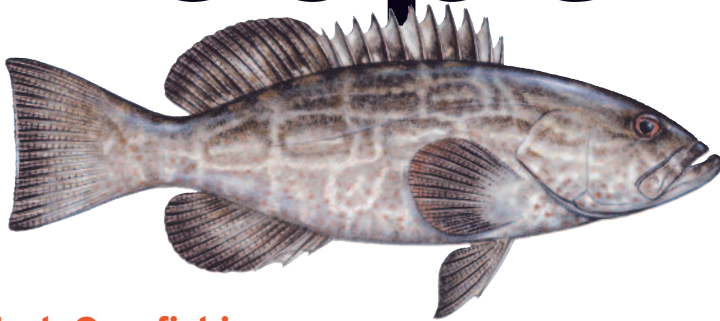
- ▶ Troll or pole-caught albacore from British Columbia or the U.S. and troll- or pole-caught skipjack tuna are your best choices.
- ▶ Troll or pole-caught bigeye and yellowfin tuna are good alternatives.

Other Common Names

- ▶ Horse mackerel
Giant tuna
Maguro



Groupers



Quick Fact: Overfishing

Many species of grouper are overfished – they are caught faster than they can reproduce to maintain healthy and abundant populations.

Make Choices for Healthy Oceans

Issues

- ▶ Groupers can live as long as 40 years. They only reproduce for short periods of time each year.
- ▶ Years of heavy fishing have reduced grouper populations to very low levels. Although management is improving, many species of grouper are still considered overfished.
- ▶ Bycatch in the grouper fishery includes both undersized individuals and protected species of groupers.

Location

- ▶ There are more than 85 species of groupers found worldwide. The U.S. grouper fishery is concentrated in the Gulf of Mexico and around the Main and Northwest Hawaiian Islands. Most imported grouper comes from Mexico.

Other Common Names

- ▶ Hāpu‘u (in Hawai‘i)
Hāpu‘upu‘u (in Hawai‘i)
Mero
Sea bass

Health Alert

- ▶ Environmental Defense Fund has issued a consumption advisory for groupers due to elevated levels of mercury. Visit www.edf.org/seafood for more information.

Menu Alternatives

- ▶ Tilapia and barramundi, both U.S. farm-raised are your best choices.
- ▶ Black sea bass and U.S. mahi mahi are good alternatives.

Red Snapper



Quick Fact: Overfishing

Red snapper are overfished worldwide and large numbers of juvenile snapper are accidentally caught in shrimp nets before they've had a chance to reproduce.



Make Choices for Healthy Oceans

Issues

- ▶ Snappers are slow growing and can live for 60 years. Years of overfishing and poor management have depleted snapper populations worldwide.
- ▶ Juvenile red snapper are caught as bycatch in the Gulf of Mexico shrimp fishery. U.S. shrimpers are attempting to reduce snapper bycatch and rebuild snapper populations to abundant levels. This process, however, is predicted to take until 2032.

Location

- ▶ Snappers are found throughout tropical and subtropical waters, including the Atlantic, Pacific, and Indian Oceans, as well as in the Caribbean and Coral Seas.

Menu Alternatives

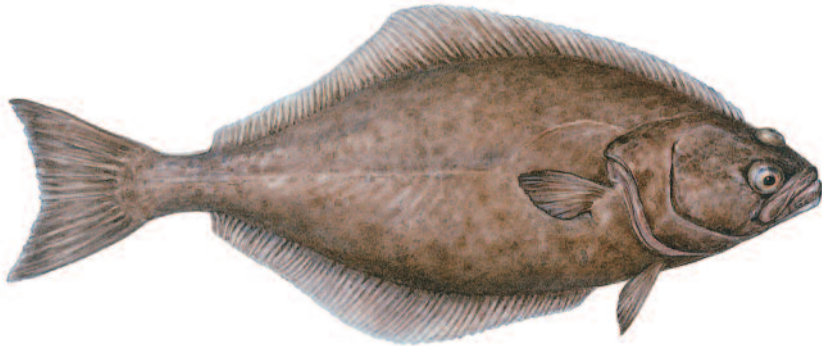
- ▶ Tilapia and barramundi, both U.S. farm-raised are your best choices.
- ▶ Pacific flounders and soles are good alternatives.

Other Common Names

- ▶ Ehu (in Hawai'i)
'Ula'ula (in Hawai'i)
- ▶ Don't confuse red snapper with "Pacific red snapper," which is the market name for many West Coast rockfishes.



Atlantic Flatfish



Quick Fact: Overfishing

Populations of Atlantic flounder, sole and halibut are depleted due to decades of heavy fishing pressure.

Make Choices for Healthy Oceans

Issues

- ▶ Atlantic flatfish populations are depleted due to heavy fishing pressure over the last half-century. Despite a management plan intended to allow flatfish populations to rebuild, most stocks are not recovering.
- ▶ Fishermen catch flatfish with trawls: dragging large nets on or close to the seafloor. Trawling can damage under-sea habitats and accidentally catch other marine life that is dumped overboard, dead or dying, as bycatch.

Location

- ▶ There are over 500 species of flatfish worldwide. They live on or near the seafloor in coastal waters. The Atlantic flatfish described in this card live off the U.S. East Coast.

Menu Alternatives

- ▶ Pacific halibut and U.S. farmed tilapia are your best choices.
- ▶ Pacific flounders and soles and Greenland turbot are good alternatives.

Other Common Names

- ▶ Atlantic flatfish of concern include Atlantic halibut, gray and lemon sole, summer, windowpane, winter, witch and yellowtail flounders.

King Crab



Quick Fact: Overfishing

Decades of heavy fishing and poor management have depleted populations of king crab from imported sources.

Make Choices for Healthy Oceans

Issues

- ▶ Half of the king crab in the U.S. is imported from Russia, where laws are poorly enforced and illegal fishing has depleted crab populations.
- ▶ Although some of Alaska's king crab fisheries are depleted, there are management efforts in place to make sure that overfishing doesn't occur.

Location

- ▶ King crabs are bottom dwellers. They live in cold-water environments, from the Sea of Japan to the Gulf of Alaska.

Menu Alternatives

- ▶ Dungeness and stone crab are your best choices.
- ▶ King crab from the U.S., snow crab and blue crab are good alternatives.

Other Common Names

- ▶ Alaskan king crab
Blue king crab
Golden king crab
Red king crab
Scarlet king crab



Wild Shrimp



Quick Fact: Bycatch

Globally, over 60% of the marine life caught in shrimp nets is discarded overboard dead or dying, making it one of the world's most damaging fisheries.



Make Choices for Healthy Oceans

Issues

- ▶ Fishermen catch shrimp with trawls: dragging large nets along the seafloor. Trawling damages undersea habitats and accidentally catches other marine life, including endangered sea turtles, juvenile fish and other bycatch, that is dumped overboard dead or dying.
- ▶ This bycatch amounts to more than 1.8 million tons of marine life each year.

Issues

- ▶ Shrimp trawl nets can be modified to minimize bycatch by adding Bycatch Reduction Devices (BRDs) and Turtle Excluder Devices (TEDs). These modifications have been effective in the U.S. and other countries where their use is enforced.

Other Common Names

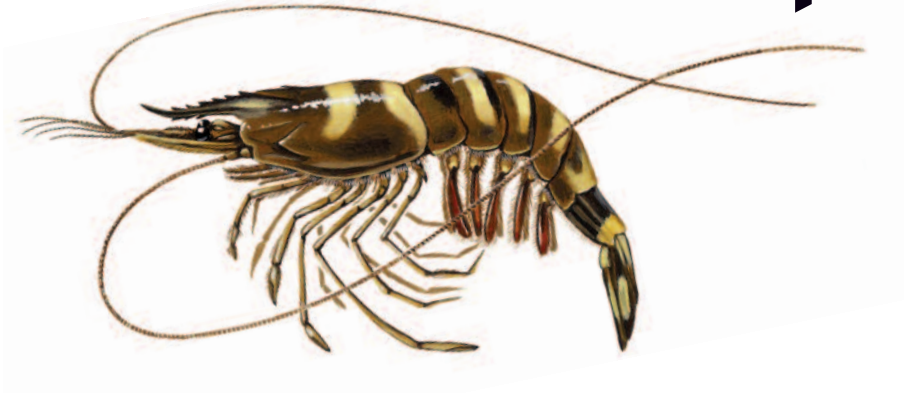
- ▶ Wild-caught shrimp includes bay, brown, Northern, pink, rock, white and tiger shrimp, tiger prawns and spot prawns.

Menu Alternatives

- ▶ Pink shrimp from Oregon and spot prawns from British Columbia are your best choices.
- ▶ U.S. farmed shrimp is also a best choice as U.S. shrimp farmers must follow strict pollution standards.
- ▶ U.S. spot prawns and U.S. farmed or trawl-caught shrimp are good alternatives. U.S. shrimp fishermen adhere to bycatch reduction measures.



Farmed Shrimp



Quick Fact: Habitat Damage

The development of shrimp farms has destroyed millions of acres of coastal habitat.



Make Choices for Healthy Oceans

Issues

- ▶ On average, shrimp feed requires two pounds of wild fish to grow one pound of farmed shrimp. As a result, farming shrimp actually uses more fish than it produces and puts more pressure on our oceans.
- ▶ Shrimp farmers may use antibiotics to prevent or treat disease outbreaks. Overuse can lead to the development of antibiotic-resistant bacteria.

Issues

- ▶ About 2.5 million acres of wetlands and coastal mangroves have been converted to shrimp farms, destroying important habitat for a wide variety of wildlife and humans.
- ▶ Untreated wastewater from farms pollutes the coastal environment and contaminates the groundwater.

Other Common Names

- ▶ Farmed shrimp includes black tiger and white shrimp and freshwater and tiger prawns.

Menu Alternatives

- ▶ U.S. farmed shrimp is your best choice as U.S. shrimp farmers must follow strict pollution standards.
- ▶ Pink shrimp from Oregon and spot prawns from British Columbia are also best choices.
- ▶ U.S. wild-caught shrimp, including spot prawns, are good alternatives. U.S. shrimp fishermen adhere to bycatch reduction measures.