



## What is sustainable seafood?

For a fishery, the term "sustainable" does not mean that it isn't captured. It simply means that it is captured in a way that doesn't risk the future of the fishery. This is actually better for everyone. When a species is "overfished", it leads to a number of problems for the fish and the fisher. First, there are fewer fish. This makes them harder to capture and, with fewer parents, there will be fewer offspring. Second, the fish tend to get smaller. They mature at a smaller size and at a younger age. Smaller fish produce fewer offspring. A fishery that exhibits these characteristics becomes less profitable, which eventually has a far-reaching economic impact: fishers, boat manufacturers, hotels and restaurants can all suffer.

## What does our program entail?

Our restaurant partners have agreed to remove **Chilean sea bass**, **orange roughy** and **shark** from their menus until these populations are no longer in decline. We all work to support locally captured seafood that is environmentally sound and captured under current guidelines. These three fish were not chosen haphazardly but because of overwhelming scientific consensus.

### Sharks



Sharks have evolved life history characteristics that are unique among fishes. Unlike the bony fishes, elasmobranchs (sharks, skates and rays) become sexually mature at a late age, have long gestation periods and produce few offspring, making this group of fishes very vulnerable to exploitation. The way sharks reproduce is more similar to birds than to other fishes. Throughout the world, the demand for many shark products such as meat, fins, hide, liver oil, and cartilage has increased. There are approximately 370 species of sharks in the oceans, seas, rivers and lakes of the world, approximately 40 of which are caught in the commercial and recreational fisheries along the southeastern coast of the United States.

Information pertaining to the life history of many of these species remains incomplete. This lack of knowledge can be attributed to the difficulties associated with data collection--seasonal occurrence, high mobility, and the low economic value of sharks when compared to many bony fishes like snapper and grouper. Confounding the problem is the difficulty identifying sharks to the species level and the potential hazards involved with handling these animals. The



lack of life history information for the majority of species that constitute the southeastern U. S. shark fishery has forced fishery managers to rely on assumptions rather than species- specific data. Accurate and reliable information regarding the age composition, growth rate and reproduction of each species within the fishery is required to effectively manage fisheries.

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### Orange Roughy



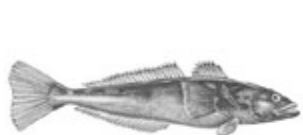
The orange roughy is an example of a species that was intensively fished before scientists understood its breeding and life cycles. The orange roughy doesn't become sexually mature until it is over 27 years old. Orange roughy can live to over 100 years. Commercial fishing began in earnest for this highly valued species in 1986 with a recorded landed catch of 4200 tons. The catch peaked in 1990 at 45,000 tons. However, the first catch limits weren't put into place until 1990 and new information caused that limit to be lowered in 1996 to its current level of 6500 tons per year. It is now estimated that the fishery can only support a harvest of around 3000 tons each year.

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### Patagonian Tooth Fish or Chilean Sea Bass



Chilean Sea Bass is the market name for the Patagonian tooth fish and often the related Antarctic tooth fish. This fish is caught by long line fishing in the deep cold waters of the South Atlantic and Pacific Oceans at very high latitudes. Because of the environment in which Chilean sea bass live, food supplies are limited for these fish. Consequently, these fish grow very slowly and do not produce as many eggs as other species. They are being captured at a rate that far exceeds their ability to replace the numbers lost to the market and thus the fishery is not sustainable.



*Illustration courtesy of John Mark Dean*

Horn, P. 2001. "Age and growth of Patagonian toothfish and Antarctic toothfish in waters from the New Zealand subantarctic to the Ross Sea, Antarctica". *Fisheries Research* 1276: 1-13.

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Moore, J.A. 1999. "Deep-sea finfish fisheries: lessons from history". *Fisheries* 24 (7): 16-21.

## Why buy local seafood?

When you buy locally-captured seafood that is caught responsibly, you are supporting the local economy and sustainable seafood. At present, local fishers face competition from imported seafood that may not have been caught according to our local regulations. South Carolina's shrimpers, for example, have worked hard to reduce by-catch reduction and to shrimp where trawling is less damaging to ocean floor habitat. Not to mention, when you buy locally, you are also ensured the freshest seafood!

In South Carolina, wreckfish (*Polyprion americanus*) is an example of a seafood choice that is captured locally and is a well-managed fishery with a total allowable catch. During the 2002 launch of the Sustainable Seafood Initiative, local chefs took a financial risk and made a commitment to the project by serving wreckfish, a less popular seafood item. The end result was delicious and guests were pleasantly surprised. "By showcasing and cooking a local seafood item, chefs are not only supporting the local seafood industry, but they are adding a local dish to their menus, which is always a benefit for our guests," stated Peyton Smith, formerly executive chef at local FISH restaurant.

Due to the overwhelming success of wreckfish as featured seafood, restaurant partners are now encouraged to promote an additional seafood item: locally grown, farm raised clams (*Mercenaria mercenaria*). Farm raised clams are grown in lowcountry inter-tidal mud flats; raising clams begins with the production of small seed clams in a land-based hatchery. Once the seeds are about six months old, they are placed in a field nursery where they will continue to grow for eighteen to twenty-four months until they reach market size and can be harvested all year.

## What are the problems facing fisheries?

Fish have vastly different lifestyles and live in a variety of habitats. Their life histories are also variable with some maturing very early in life and others much later. Some fish produce many offspring each year while others produce few. Also, there are often large differences between the number of offspring produced by large fish and small fish of



the same species. These differences make managing fisheries difficult since much information is required for good decisions regarding size limits, quotas etc. And when adequate knowledge is available and a solid management plan is in place to conserve the fish, this plan must be enforced.

Many fish have world-wide distributions and may be subject to fishing pressure in several countries and by both commercial and recreational fishermen. Some types of fishing may be damaging to the habitat and to other fish species captured by accident. New technology allows us to capture fish at a greater rate than was possible in the past. At present, about 70% of the world's fisheries are being fished at capacity or are overfished.

## Frequently Asked Questions?

### **Q: What is "black cod"?**

A: Black cod is also called sablefish and is caught in a sustainable manner. The fish is reported as having a rich, buttery taste and firm flesh. Although the fishery declined in the 1970's, reforms by managers in Canada and Alaska seem to have stabilized the population. The fish is now gaining popularity in restaurants. It is not, however, local to South Carolina, occurring instead in the Pacific.

### **Q: How can I tell if seafood is locally caught?**

A: It can be hard sometimes. The first step is asking. In a market or restaurant ask "Which of your selections is local?" Don't ask if a specific item is local because some of the less honest people out there will lie just to get you to buy it. So make them tell you what is local. You can also do a little research on what fish are in season. The South Atlantic Fishery Management Council and the South Carolina Department of Natural Resources regulate the seasons of many local fisheries. Check their websites for more information. If a fishery is closed you can be fairly certain that a restaurant serving that fish is either importing it or, less likely, had stocked up their freezer while the season was open. So get informed and order what is in season. Don't be afraid to try something new!

### **Q: What is wreckfish?**

A: Wreckfish is a large bottom-dwelling fish similar to grouper or sea bass, but classified in its own family, Polyprionidae. It can live over 50 years, and can grow to over 3 feet in length and 100 lbs in weight. Adults live at depths between 200 and 3,000 feet. It was named wreckfish because juveniles tend to associate with floating seaweed and wreckage debris. In the U.S. the only fishing grounds are on the Blake Plateau off the coast of South Carolina. Wreckfish is very well managed, a sustainable fishery, and is in season mid-April through December.



**Q: Why does your list of *What Fish to Serve* include swordfish? I thought they were badly overfished and might become extinct. Also, aren't they toxic from mercury?**

A: The North Atlantic swordfish populations were in trouble for quite a while, but due to good management, elimination of overfishing and a lot of sacrifices by swordfish fishermen, the North Atlantic swordfish population rebounded by 2002 to 98% of levels considered healthy and is no longer considered overfished. To address the second half of your question, swordfish are routinely checked for mercury content and the recommended safety level is very conservative. In addition, it is very unlikely that any of us can consume enough swordfish, or tuna, to reach a toxic level. We have a local fisherman landing swordfish, and works very hard to follow all of the federal and international regulations. Enjoy this excellent fish with a guilt free conscience!

**Q: I thought farmed fish were bad. Why do you promote farmed tilapia, catfish, cultured mussels, clams and oysters?**

A: Aquaculture is often accused of being bad for the environment and sometimes can be if natural marine habitats are destroyed, pollutants such as excessive waste or hormones are released, or natural populations of fish are overfished to feed piscivorous (fish eating) species of farmed fish. But aquaculture isn't always bad for the environment; in some cases, like clams and oysters, it even can improve the environment. Clams and oysters are farmed in natural clam and oyster habitats. Farmers seed the area with juveniles contained in pens then harvest the adults. Growing mussels, clams and oysters filter-feed, therefore they are actually cleaning the water they live in. Tilapia is a "vegetarian" fish so wild fish are not harvested to feed them. Tilapia and catfish are farmed in freshwater, typically inland, so marine habitats are not damaged to create farms. The waste from these farms is of high quality, well contained and naturally recycled. So feel confident about ordering farmed mussels, clams, oysters, tilapia, and catfish!

**Q: Shrimp trawlers probably destroy bottom habitat and have huge amounts of by-catch. How can you as a "Sustainable" Seafood Project promote locally produced shrimp?**

A: In the southeastern United States, shrimp fishermen are not permitted to trawl in sensitive areas where their nets would destroy bottom habitats. Instead they trawl over bottom where their impact is minimized. As for by-catch, the staggering figures you often hear of 10 lbs of by-catch for every 1lb of shrimp can be true in some places, but again, studies show that is not true off the coast of the southeastern United States. In this region, by-catch is a much smaller percentage of the total catch.



**Q: Can you explain the difference between the "overfished" and "overfishing"?**

A: According to the federal government, "overfished" means that the stock of a fishery is of a size below the natural range of fluctuation associated with the production of maximum sustainable yield. In order to understand these definitions you need to know the definition of maximum sustainable yield: the largest average catch that can be taken continuously (sustained) from a stock under average environmental conditions. The federal government's definition of "overfishing" is a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis. Overfished means we've already taken too many fish out of the population, while overfishing means we're currently taking too many fish out of the population at this time and the population cannot recover to a sustainable level.

**Q: Where can I buy locally caught seafood in Charleston, S.C.?**

A: Here is a list of retailers where you can often find fresh, local and domestic (not-imported) seafood. Just ask them what is local or domestic. Your local grocery store might even carry some too, specifically ask for it!

Cherry Point Seafood  
2789 Cherry Point Road  
Wadmalaw Island, SC 29487  
(843) 559-0858

Cindy's Seafood and Country  
Market  
4343 Betsy Kerrison Parkway  
Johns Island, SC  
(843)768-0155

Crosby's Seafood  
382 Spring Street  
Charleston, SC  
(843) 937-0029

Crosby's on Folly  
2223 Folly Road  
James Island, SC 29412  
(843) 795-4049

Earth Fare  
74 Folly Road Blvd.  
Charleston, SC  
(843) 769-4800

Magwood CA Jr. and Sons  
110 Haddrell St.  
Mt. Pleasant, SC  
(843) 884-3352

Mount Pleasant Seafood  
1 Seafood Drive  
Mt. Pleasant, SC  
(843) 884-4122

Simmons Seafood  
1400 Palm Blvd.  
Isle of Palms, SC  
(843) 886-6449

Whole Foods  
923 Houston Northcutt Blvd  
Mt. Pleasant, SC  
(843) 971-7240