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Commercial Fisheries in the Gulf



Above: The annual Blessing of the Fleet in the seafood capital of Alabama, Bayou La Batre. Photo by David Hay Jones.

The US is one of the world's largest consumers of seafood, importing more seafood than any other nation. US fisheries are also some of the most productive in the world and, as a result, the US is one of the world's largest seafood exporters as well. However, whereas almost half of global seafood production comes from aquaculture, over 90% of US seafood production comes from wild caught fisheries.

US commercial fisheries (*fishery* refers to the harvest of any aquatic organism) are arguably the most robust, sustainable and well-managed fisheries in the entire world. Only 15% of US stocks are currently deemed overfished and that percentage decreases every year. Despite all this, it is estimated that only about 35% of seafood consumed in the US was caught domestically. Furthermore, a large portion of that 35% is caught domestically, but then shipped overseas for processing before being imported for US consumption. Only by buying fresh, local seafood can you ensure that your purchase never left the US.

The Most Important Fish in the Sea



Above: Image of a Gulf menhaden, the “most important fish in the sea.”

By weight, most US commercial fishery landings are fish (83%), with mollusks (10%) and other invertebrates like crabs and shrimp (7%) comprising the remainder of landings. In total, 61% of all US commercial landings are generated in the Pacific Northwest, which is unsurprising considering Alaska pollock alone make up 32% of all US commercial landings. What *is* surprising is that the species with the second highest landings is not a fish we eat, but rather the Gulf menhaden (pogy). Landings of this species totaled more than 500,000 tons in 2018. In fact, of all commercial landings in the US southeast Atlantic and Gulf of Mexico regions, 75% of those landings are Gulf menhaden. This volume is shocking to many who only think of the species as bait; however, Gulf menhaden are key to many nonconsumption-based markets, such as the fish oil and fishmeal industries. While the sheer amount of Gulf menhaden harvested has raised concerns from many conservation groups due to the fish’s vital importance in our coastal food webs (menhaden are often referred to as “the most important fish in the sea”), the fishery is considered by scientists to be well-managed and has even received Marine Stewardship Council certification.



Above: Image of a brown shrimp. Photo by Trey Spearman.

Brown and white shrimp comprise the second and third highest landings for the Gulf respectively, making up 13% of commercial landings. However, shrimp are by far the most valuable fishery in the Gulf. For example, shrimp brought in more than \$400 million in 2016, which contributed to almost *half* of the Gulf’s total seafood revenue during that year. Gulf menhaden are the second most valuable fishery in the Gulf, contributing to 16% of the Gulf’s revenue. Interestingly, red snapper, which have the highest landings and are the most valuable among all consumption fish in the region, make up less than 1% of total landings and only about 3% of the Gulf’s revenue.

How Are These Species Harvested?

While Gulf menhaden, shrimp and red snapper together represent the Gulf of Mexico’s three most iconic commercial fisheries, these species are harvested using vastly different methods.



Top: Photo of a boat captain opening the cod end of a trawl net to release the catch onto a sorting table. Photo by David Hay Jones.

Bottom: Photo of a scientist using a vertical longline to catch red snapper for a fishery-independent research study. Photo by Trey Spearman.

Purse Seine

Gulf menhaden are generally caught using purse seines. A purse seine works by encircling a school of fish with a giant net. Small purse seiner vessels (i.e., less than 100 feet long) generally engage a smaller strike boat that is towed behind the purse seiner. When a school of fish is spotted, by either the purse seiner captain or an overhead spotter plane, one of the boats speeds off and encircles the school of fish with the net. The net is then cinched together at the bottom and slowly brought up into the purse seiner. As the net gets smaller in circumference and tighter around the school, the fish are then either brought on deck with the net, removed using a smaller dip net or sucked up into the boat's hull using a giant tube. Many menhaden purse seiners are actually quite large – so large in fact that they have two strike boats that sit on ramps on the stern. In this case, the two strike boats carry the net and work to encircle the fish while the larger purse seiner removes the fish from the net and carries the load back to port.

Trawl

While many people may not be familiar with purse seining, most Gulf Coast residents have seen a shrimp boat trawling somewhere along the shore. Shrimp trawlers often pull multiple nets behind their boat, which is why they often have two long poles, or outriggers, splayed off their port (left) and starboard (right) sides. When a trawl net is lowered into the water, it quickly

opens up as the two otter boards (think of a big rectangular board with a weighted bottom) diverge in separate horizontal directions and the weighted bottom of the net separates vertically from the slightly buoyant top. The net is tapered in shape; it is widest in the front to fish the greatest area possible, and ends with a cod-end, which is a narrow and non-tapered part that concentrates all of the catch into one easily accessible area. Shrimp fishermen pull the nets for a certain period of time, depending on how much they are catching, before then hauling the nets back to the boat one at a time and emptying the cod ends onto the boat. Although shrimp trawl bycatch use to be an immense problem, this issue has been greatly improved through the years thanks to turtle excluder devices, or *TEDs*, and bycatch reduction devices, or *BRDs*, both of which are required in federal waters.

Vertical Longline

Vertical longlines are the primary method used by commercial fishermen for harvesting red snapper. A vertical longline consists of a large reel, called a bandit reel, spooled with high test monofilament mainline. This mainline connects to a backbone, which is a series of several evenly spaced baited gangions (gangions are short lengths of line, each with a hook on the end). The backbone terminates in a heavy weight. During commercial red snapper fishing, the fishermen generally deploy several longlines at once, dropping the lines down to the bottom and leaving them alone until there are several fish on the line (a tell-tale sign is a twitching or twisting mainline). Once fishermen are confident that there are “fish on,” they haul the lines back up. Commercial red snapper fishermen usually fish a particular site until the bite slows down or they catch their target.

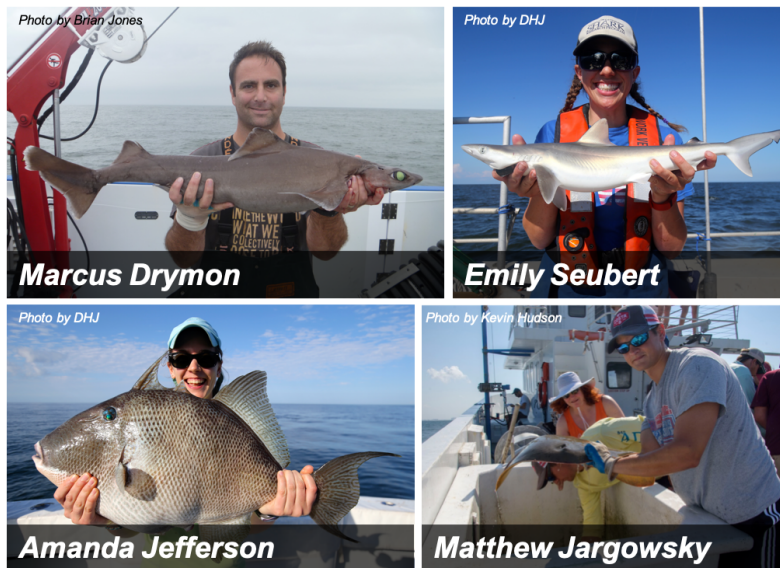
Seafood Isn't Always as It Seems



Above: Photo of fish filets. Photo by Andreas Lischka from Pixabay.

By buying locally caught seafood, you are not only supporting local fishermen, but you are also ensuring that the seafood you purchase is indeed the species that is listed on the label. Unfortunately, since many fish filets look extremely similar, it can be nearly impossible for even the trained eye to distinguish whether a fish filet is labeled correctly. Scientists have extracted DNA from filets found in grocery stores, seafood markets and restaurants that were labeled as red snapper to see if they were truly red snapper. Astonishingly, over 70% of the fish tested in these studies were *not* red snapper. While many represented other local snapper species, such as vermilion and lane snapper, some represented species from in the Indo-Pacific, and others were even tilapia.

Thus, the closer you buy your seafood to the original source, the less likely it is to become mislabeled along its marketing journey.



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