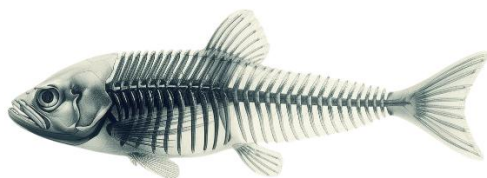


Fin Fish Paper



So, what is a “finfish?” Fin fish are aquatic animals by having a backbone, gills, and fins. It defines a true fish such as salmon, tuna, bass, and even flat fish like halibut, inhabiting both fresh and salt water. The term finfish is primarily used in the culinary world as a way to distinguish them from shellfish. I am going to be discussing six different finfish in this paper, all of which will include a picture of a catch I made of that type of fish that I am discussing. Included will be yellowfin tuna, king salmon, sailfish, rainbow trout, largemouth bass, and halibut.

Finfish are normally broken down into two classifications for culinary purposes. First, you have the lean fish, the ones low in fat. They include species like snapper, flounder, cod, and halibut. They are known for their mild flavor, white flesh and flaky texture. The best ways to cook them tend to be poaching them, steaming, frying and by sauté. The second category is the fatty, much more oily fish. This includes salmon, tuna, mackerel, and sardines. These fish have a much richer flavor with a firmer flesh. They are also very high in omega-3 content, providing an essential nutrient for supporting the heart, brain, and immune systems.

We can also breakdown finfish by another pair of categories: saltwater and freshwater. Saltwater fish are your tuna, snapper, halibut, and grouper. Common freshwater fish are bass, trout, crappie, perch, and walleye. Although there is a middle category of fish that can live in both freshwater and saltwater, called brackish water. Flounder, snook, redfish, tilapia, and salmon are all euryhaline species which means they can regulate their internal salt balance in a changing environment. Brackish fish often have a cleaner flavor than full freshwater and less iodine than open-ocean fish. They also have a firmer texture due to variable salinity stress and that firmer texture creates a grate platform for barbecue smoking, especially species like red drum, striped bass, and mullet. A light fruitwood really enhances the flavor and elevates the fish flavor to another level.



"Yellowfin tuna I caught on rod and reel off the coast of Costa Rica in the Pacific Ocean."

Yellowfin tuna is an amazing example of quality finfish with a flavorful flesh that I have personally experienced within 5 minutes of catching this fish in the picture. We fileted the fish into 4 large portions and then began slicing sashimi slices off one of the filets to eat raw, then adding some sliced avocado, ultra-thin tomato,

flaky salt, and a drizzle of lime juice to make a plate of the one of the most amazing fish I have ever eaten. We also took a filet to a local restaurant in our little coastal town of Quepos, that cut the filet into steaks and then seared them off and served them with rice, beans, and a corn-salsa. We gave the other 2 filet chunks to the captain and first mate to enjoy.

Yellowfin tunas are pelagic, or open-ocean, fish that is found in tropical and subtropical waters worldwide. They are highly migratory and are found in warm currents and associate with floating debris or offshore structures. Most yellowfin tuna grow to a size between 20-60 pounds but have known to exceed 400 pounds. Their length is proportionate to their weight and can grow to 7 feet long for very large examples. Yellowfin tuna grow very fast and are very powerful endurance swimmers build for speed. The ones we caught were being chased by a school of dolphins that we got out in front of and easily caught with rod and reel with lightweight line, it was a good fight.

This type of tuna is commonly used for sushi/sashimi, seared rare steaks, poke, and light grilling. If you overcook tuna, they will get dry and chalky, so it's best served rare to medium-rare only. It's high in quality proteins, omega-3 fatty acids, and rich in vitamin B12, although a little leaner than bluefin, but still heart-healthy. A yellowfin tuna is typically broken down into loins, steaks,

and Saku blocks, which are used for sushi. Tuna like this is primarily used in Japanese, Hawaiian, and Latin cuisines, featured in ceviche in Central American countries.

Yellowfin tunas are commercially harvested using longline, purse seine (which is a circular net method for catching service fish), and pole-and-line fishing. Pole-and-line fishing is the most sustainable form of tuna fishing and is primarily done in the Pacific and Indian oceans. Atlantic Ocean fishing tends to be the purse seine method and has led to overfishing and the Atlantic stock facing pressure on the health of the stock. Pacific stocks are much more stable due to less net fishing. These are important things to look for when you are buying yellowfin tuna. You want them to have an MSC (Marine Stewardship Council) certification, be pole-and-line caught, and in a region with sustainability reports that show healthy stock.

Yellowfin tunas are available in a plethora of local and online locations. Ranging in price from \$9.99 per pound to \$49.99 per pound depending on market location and type. Local fish stores like Seafood Express have ahi tuna regularly in the frozen fish section. Aldi's and Hy-Vee are a good location to purchase it from a larger chain grocery store at a slightly better price than your local fishmonger. You can purchase it from places like Oceanside Seafood, Washington Crab, Harbor Fish Company and Anderson Seafoods. The absolute best place to buy it must be at the Pike Place Fish Market in Seattle. They source only from trusted fisheries and distributors, always ensure proper icing, and hand-cut to order. Plus, they throw the fish back to the cutter after you pick out the one you want from up front. The show is half the fun.

Yellowfin tuna is a prized culinary finfish that has a firm texture, deep red color and clean, mild flavor. It supports major commercial fisheries worldwide with a higher level of sustainability in the Pacific and Indian oceans. They are easily recognizable by their bright yellow dorsal and anal

fins with a streamlined body built for speed. Combining biological power with culinary versatility, yellowfin tuna stands as one of the ocean's most prized and influential food finfish.



"Rainbow trout pulled on rod and reel from Wasilla Lake in Alaska."

Rainbow trout is a freshwater fish native to North America but were widely introduced and farmed around the world. They are easily recognized by their pink or red stripe laterally along the side of their silver body. It's actually a member of the salmon family and thrives in cold, clear waters found in lakes, rivers, and streams. There is a special type that migrate to the ocean that are more of a cross between salmon and rainbow trout, referred to as steelhead. Particularly fun to catch in the rivers of northern Michigan. The rainbow trout in the picture is one I caught while ice fishing in Alaska. Weighing in at 3.4 pounds, this is typical for a fish that can routinely weight between 1-10 pounds and a length up to 30 inches.

Most rainbow trout sold for food is farmed but there are still local fishmongers who will get wild caught trout. There are not limitations to where trout can be farmed, and they are well established worldwide and profile as a major aquaculture species. Rainbow trout is a tender, flaky texture with a mild flavor that can be slightly nutty but normally clean. The flesh tends to be a pink or pale orange color to it, depending on the diet of the trout. Commonly rainbow trout is server as pan-seared fillets or whole roasted. Smoked trout is considered a poor-man's smoked salmon in many places and its popularity is increasing yearly. The smoked version is very good turned into a spread and served with toasted bread points. It is very popular American cuisine but was elevated in French cooking with dishes like trout amandine. Alpine and Central European cooking focuses on smoked trout and hearty preparations with potatoes, dill, and horseradish.

The one in the picture above, I gutted that trout and then pan-seared it in butter until I could pull the entire skeleton out by the head in one pull. Just a simple lemon-pepper and salt seasoning to enhance the flavor and it was delicious.

Rainbow trout that is U.S. farm raised, is rated “Best Choice/Green” by Seafood Watch and is highlighted for its nutritiousness and sustainability. There is no risk of overfishing or extinction for rainbow trout. They can be found in almost every state and every major country in the world. With proper farming techniques utilizing freshwater raceways and indoor recirculating treatments, rainbow trout will be around forever. Many of the farm raised trout are introduced into the wild for recreational purposes. If you want to catch one around here, there are about 40 different places you can and some river systems nearby that have amazing trout habitats and provide amazing angler opportunities.

If catching them is out of the picture, you are in luck, almost every grocery store in the area has rainbow trout available. You can also use purveyors like Seafood Express or Asian World Market. They are often sold as pan-sized which are between 10-16 inches long and 1-2 pounds. They are gutted and commonly sold with the head still attached, but you can find just filets of rainbow trout in some grocers. With so many local options always for purchasing trout, it is not sold online in abundance but rarer versions from special locations can still be found occasionally. Mid-priced would be the best way to describe the cost of trout. It's cheaper than many wild salmon cuts and at \$7-\$14 a pound for portions and slightly cheaper prices for whole fish, it's comparable to other premium “everyday” fish, like Arctic Char and Mahi-mahi. Overall, rainbow trout remains a widely available, responsibly farmed, and versatile freshwater species that offers a refined yet approachable choice for both home cooks and professionals alike.



"Sailfish I caught on rod and reel off the coast of Costa Rica in the Pacific Ocean."

Sailfish are a sport fish prized for their incredible fight on rod and reel but not commonly consumed. They are large sized and have a typical length of 6-10 feet and common weights of 120-220 pounds but can easily exceed 300 pounds. They are easily recognized by their long, spear-like bill and dramatic sail-shaped dorsal fin. They have a metallic blue upper body, silver sides and are built for speed and agility. It is known as the fastest fish in the ocean and are highly prized as a sport fish, though primarily a catch and release finfish.

You can commonly find them in the 3 major oceans, all except the Arctic, as they prefer warm offshore waters. Caught in the picture above was while fishing 23 miles out in the Pacific, off the coast of Costa Rica. (No, I didn't see the Jurassic Park islands while out there.) Sailfish are often associated with surface schooling baitfish, chasing Wahoo, Mahi-mahi, and Bonito. We used 18" versions of those fish as bait. Sailfish are highly migratory and can travel thousands of miles during their lifetimes.

Sailfish are exclusively wild caught. No farming of sailfish exists and there is no commercial aquaculture production. They are primarily caught incidentally in longline fisheries while fishing for other fish like tuna. The highest value is in sport fishing. Sailfish is edible but not commonly sold in mainstream retail markets. The flesh is firm, with a moderate fat content, and pink to reddish colored and is often compared to marlin or swordfish. When consumed, the most common preparations are grilled steaks, best suited to high-heat cooking, blackened or seared portions, and then in smoked preparations used a lot in fish dips. Because of conservation concerns, it is rarely a menu fish in restaurants around the world. If you are looking to find it in a

restaurant somewhere you have your best chance in coastal Caribbean and Central America or in parts of Southeast Asia, it is not widely integrated into major cuisines the way tuna or salmon have been.

The sustainability outlook remains steady due to multiple reasons. They are not commercially fished anywhere, mostly just bycatch in longline fisheries, and often released. There is a high sport fishing pressure put on their population, but many regions encourage catch-and-release practices to maintain sustainability. Sailfish are not typically recommended as a sustainable commercial seafood choice worldwide. There is also a limited retail availability. When they are sold, their price is similar to other large pelagic fish like swordfish. There are no local markets, and I couldn't find any online store to order it from. We practiced catch and release with our catches and I never tasted it myself.

Sailfish is best known as a premier sport fish rather than a commercial seafood staple, valued more for its speed and sporting challenge than its culinary prominence.



"Largemouth Bass caught out of the Connecticut River in Holyoke, MA."

Largemouth bass is a freshwater fish native to North America and one of the most popular sport finfish in the United States. They are easily identified by their oversized mouth and a dark horizontal lateral stripe along their side. Commonly weighing between 1-5 pounds, and large specimens between 8-15 pounds, but trophy fish can easily exceed 20 pounds. Typically, they are 12-20 inches long but lengths over 32" have been recorded across the United States. The one in the picture measured 22" in

length and 2.6 pounds. You can see in the picture how they have an olive-green back with a lighter colored belly. Their large mouth was adapted for ambush predation and known for their aggressive feeding behavior. That feeding behavior and a fun fight are what leads to their excessive fishing popularity.

Largemouth bass are native to eastern and central North America but have been widely introduced across the U.S. and the rest of the world. You will find them in lakes, reservoirs, ponds, and slower-moving rivers. They prefer warm, vegetated waters and are extremely active during their spring spawn time. Often aggressively reacting to anything perceived as a threat or food anywhere near them.

These bass are primarily wild caught only and have a limited aquaculture compared to trout or tilapia. They exist, but in very limited numbers. Most harvests come from recreational fishing and not farmed. Managed first as a sport fish, most states regulate the sale of wild-caught bass and are found more in local fish markets than large grocery stores. It's not a major commercial finfish species, it is edible and used regionally. It has a lean white flesh with fine flakes, a low oil content, and is best cooked quickly to avoid drying the meat out. The flavor profile is mild, lean and can develop flavor notes depending on the quality of the water it resided in. Dirty water leads to dirty tasting fish. When prepared, it is commonly pan-fried in filets, blackened, grilled whole, given a cornmeal crust, and used a lot in fish tacos. Southern U.S. regional cooking is the primary area of America, near many sport-fishing communities. Prepared in a rustic or camp-style on freshwater shorelines across the south.

Their sustainability remains stable as most populations are in managed waters and limited numbers of removal are allowed. State wildlife agencies are known to heavily regulate catches based on size, weight and location. Catch-and-release is often encouraged, especially for trophy

fish. Large fish meat tends to be mushy and not as useful for consumption. They are rarely found in grocery stores but are occasionally found through specialty markets where legal. More commonly they are consumed by recreational anglers only and not purchased. No local markets have any largemouth bass in stock, and it is not available online either.

Largemouth bass is valued primarily as a premier freshwater sport fish, with limited commercial importance but regional culinary relevance.



"King salmon I pulled from Ship Creek in downtown Anchorage, AK."

King salmon, or Chinook salmon is their proper name, is the largest species of Pacific salmon and one of the most prized food fish in the world. It is referred to as "King" due to its size, richness, and culinary reputation. With a blue green back and silver sides, small black spots on the back and tail area they are identified, but the key identification trait for King salmon are their dark mouths and gums. The bottom jaw also has a "hook" shape to it, which leads to sometimes being called "Chin-hooks"

by locals. They are native to the North Pacific Ocean, often found primarily along the coasts of Alaska, British Columbia, and then down the western seaboard into California. You can also find them in northern Japan and Russia. They are anadromous, which means, they are born in freshwater, migrate to the ocean, and then return to freshwater to spawn.

Typical size for King salmon is between 10-30 pounds and 30-40 inches in length, but larger specimens can range from 40-60 pounds with record fishing exceeding 100 pounds. The one in the picture above was the first one I caught while living in Alaska and weighed 26.4 pounds.

They put up a great fight and the area to fish for them is tough, at best, due to extremely tide fluctuation in the main entrance to freshwater in Alaska. Ship creek is loaded with people and routinely 40+ King salmon are caught a day from that tributary. There are very controlled limits in Alaska for King salmon fishing, limiting anglers to 1 fish a day and 5 fish total for the season. The season tends to run about a month long, but the fish must be followed up the rivers and deeper into Alaska to stay with the school, moving each week further towards spawn points.

King salmon are available from both wild-caught and farmed varieties worldwide in markets. It is highly valued and tightly managed. Farming of king salmon takes place in New Zealand and parts of Canada and help provide year-round availability for a normally wild fish that has a limited season. With a deep orange to red flesh, an extremely high fat content that is the richest of Pacific salmon, its buttery texture and large distinct flakes, it is prized in the culinary world. It's high oil content makes it very forgiving for cooking. Prepared as grilled filets, on cedar planks, smoked, roasted whole or just one side, and the highest quality fish being used for Sashimi. Its richness supports bold flavors and smoke with culinary uses in almost every cuisine around the world. It's very popular in the Pacific northwest American region and indigenous to Alaskan cuisine, obviously, there are many Japanese and Nordic inspired dishes using king salmon. It is the most common fish served in fine dining seafood programs worldwide. It's a premium tier fish and often among the most expensive salmon varieties, although farmed Chinook can provide a slight discount in the price. In our local stores like Seafood Express and Hy-Vee, you can regularly find line-caught King salmon, but the price can easily reach more than \$35 a pound.

Renowned for its size, richness, and culinary prestige, King salmon stands as one of the most celebrated and economically important species worldwide.



"Pacific halibut caught in 600 feet of water off the coast of Homer, AK."

Pacific halibut is a large flat finfish known as the largest flatfish species in the world. It's highly valued in both the commercial and recreational fisheries. They are brown with a dark upper side and a white underside. They have a diamond shaped body and swim using their entire body in like a wave pattern to move through the water quickly. It's a strong swimmer despite its' bottom-dwelling nature. A typical market sized halibut weighs between 20-60 pounds with a length between 30-60 inches. The one in the picture that I caught weighed out at 79.6 pounds and 74 inches long. Larger specimens have been recorded over 100 inches long and weighing more than 600 pounds. Although those larger specimens are fun to catch and show off, anything over 100 pounds tends to have a nasty mushy texture and commonly is full of parasitic worms. Smaller halibut in the 20–30-inch range, commonly referred to as "pancake" halibut, tend to have the best meat texture.

Halibut flesh is snow-white and very lean. It has large, firm flakes that have a very mild and slightly sweet flavor. It is primarily wild caught in commercial fisheries that have tight regulation, with a very limited aquaculture production compared to salmon. Most often prepared as pan-seared filets or roasted portions and grilled steaks, it is extremely delicious when deep fried with a thin beer-batter, especially the cheeks. The halibut cheeks are also featured in many fine dining seafood preparations with finer preparations. Its firm structure makes it versatile and plate friendly. Popular in Pacific Northwest, Alaskan coastal cuisine, and of course French fine dining, there are also many Mediterranean seafood menus that featured various versions of cooked halibut.

Most halibut sold in North America is wild Pacific halibut. Pacific halibut stocks are closely monitored and managed, with strict limits on both commercial and recreational fishing.

Generally, they are considered to be a well-managed fisher in the U.S. and Canada, as opposed to Atlantic halibut whose populations have faced more conservation pressure historically. Halibut is a premium white fish and has a much higher price than cod or pollock. Positioned in the upper seafood entrée tier in restaurants, common grocery prices range between \$35-\$55 a pound for filets/portions. You will find them in grocery stores mostly during the summer months when the fishing season is in high production but left to specialty stores during the low seasons. Seafood Express and Alaskan Seafood Co. both provide frozen filets of Pacific halibut but out of season prices are above \$50 a pound and shipping can be just as expensive.

Valued for its firm texture, mild flavor, and careful fisheries management, halibut remains one of the most respected premium white fish species in global seafood markets. It is by far, one of the best tasting fish I have ever eaten.

I have examined 6 different finfish species in this paper: yellowfin tuna, rainbow trout, sailfin, largemouth bass, king salmon, and halibut. I wanted to represent a broad cross-section of freshwater and saltwater fish, and one brackish fish to bridge the two others. Spreading across both commercial and recreational fisheries with diverse culinary applications. Together, they highlight the biological diversity and importance of these finfish within global seafood systems and their culinary uses.

Halibut represent a demersal flatfish that has adapted to cold ocean floors while yellowfin tuna stick to the warmer saltwater and rarely are found very deep in the ocean. There is also a huge

diversity in the size of finfish. Varying dramatically between the modest pan-sized trout to massive sailfish and halibut that exceed several hundred pounds. Commercially their availability also differs significantly. Sailfish and largemouth bass are hardly found in fish markets or grocery stores around the world, but fish like salmon, trout, tuna and halibut, can be found year-round. All of the fish I have described have a large recreational sport fishing application. You can see that in I have at least one picture of me with each of these species of fish, and included them in each section.

Culinarily there are a spectrum of flavor profiles, textures, and preparation methods. Firm, snow-white flesh of halibut, light pink flesh of rainbow trout all the way to the deep red, meaty flesh of the yellowfin tuna and extreme fat content and rich buttery texture of King salmon, each species represents a different portion of finfish seafood culinary world. Highlighting how fat content influences cooking methods requiring lean fish to be cooked under careful temperature control to prevent dryness while fattier species are more forgiving and well-suited for grilling and smoking.

Together, these six fish species illustrate the intersection of biology, sustainability, and culinary application within the seafood industry. Understanding their habits, life cycles, market roles, and culinary characteristics provides a comprehensive perspective on how diverse finfish species contribute to both global ecosystems and professional kitchens.

Ahi Tuna dish I prepared:

I have caught fish around the world, had it prepared dozens of ways and there is still something to be said about a nice crispy batter on a flaky white finfish, but for Valentine's Day, I went with something a little more upscale. Here we have Yellowfin tuna quickly seared on each side and then sliced for plating, carrot and ginger puree served in the middle of the plate and then framed by coconut lime rice and an herb salad consisting of cucumber ribbons, cilantro, Thai basil, and a rice vinegar dressing. The tuna was bought frozen from Hy-Vee grocery in Springfield, Mo.



Work Cited Page:

1. "Brackish Water Fish." *Take Me Fishing*, Recreational Boating & Fishing Foundation, www.takemefishing.org/saltwater-fishing/saltwater-fish-species/brackish-water-fish
2. "Brackish Water Fish Species." *Study.com*, www.study.com/academy/lesson/brackish-water-fish-species.html
3. "Pacific Yellowfin Tuna." *NOAA Fisheries*, U.S. Department of Commerce, 2025, <https://www.fisheries.noaa.gov/species/pacific-yellowfin-tuna>
4. "Atlantic Yellowfin Tuna." *NOAA Fisheries*, U.S. Department of Commerce, <https://www.fisheries.noaa.gov/species/atlantic-yellowfin-tuna>
5. Monterey Bay Aquarium. "Rainbow Trout." *Seafood Watch*, www.seafoodwatch.org/recommendation/trout/rainbow-trout-55348
6. Food and Agriculture Organization of the United Nations. "*Istiophorus platypterus*." *FAO Fisheries & Aquaculture*, www.fao.org/fishery/en/species/2495
7. National Oceanic and Atmospheric Administration. "Pacific Sailfish." *NOAA Fisheries*, U.S. Department of Commerce, <https://www.fisheries.noaa.gov/species/pacific-sailfish>
8. Missouri Department of Conservation. "Largemouth Bass." *MDC Discover Nature Field Guide*, <https://mdc.mo.gov/discover-nature/field-guide/largemouth-bass>
9. U.S. Geological Survey. "*Micropterus salmoides* (Largemouth Bass)." *Nonindigenous Aquatic Species Database*, <https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=396>
10. Alaska Department of Fish and Game. "Chinook Salmon." *Alaska Department of Fish and Game*, <https://www.adfg.alaska.gov/index.cfm?adfg=chinooksalmon.main>
11. Food and Agriculture Organization of the United Nations. "*Oncorhynchus tshawytscha*." *FAO Fisheries & Aquaculture*, <https://www.fao.org/fishery/en/species/2504>
12. National Oceanic and Atmospheric Administration. "Pacific Halibut." *NOAA Fisheries*, U.S. Department of Commerce, <https://www.fisheries.noaa.gov/species/pacific-halibut>
13. Food and Agriculture Organization of the United Nations. "*Hippoglossus stenolepis*." *FAO Fisheries & Aquaculture*, <https://www.fao.org/fishery/en/species/2506>