

# *Seafood Basics*

A Toolkit for Understanding Seafood, Nutrition,  
Safety and Preparation, and Sourcing



To find local fish, recipes, and cooking demonstrations  
visit [EatMidwestFish.org](https://EatMidwestFish.org)



# Introduction

**S**eafood is more than just fish caught in the ocean. It includes a wide variety of product types, forms, flavors, and textures. One of the great things about using seafood is its versatility—it can be served as a main course or be used as an ingredient for appetizers, salads, and soups. Packed with important nutrients the human body needs to maintain good health, it is an excellent source of protein to include on your shopping list. Being informed about both the benefits and potential concerns with different types of seafood can help you decide which products to add to your cart or order at a restaurant.

This toolkit, designed specifically for nutrition and wellness professionals and educators, will provide you with information and resources to help you talk to your clients about the complex food category known as seafood. You will learn about the basics of seafood, nutrition benefits of including seafood as part of a healthy eating pattern, concerns about safety, tips for purchasing seafood, and ideas for cooking demonstrations. We've included simple and tasty recipes that you can use to introduce your clients to the many flavors of fish and shellfish, links to downloadable and printable handouts, and sample social media posts that you can use to inform and inspire.

This toolkit is geared toward extension staff who teach nutrition and wellness. It includes both printable and digital elements that can be shared with clients based on interest and need.





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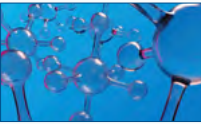
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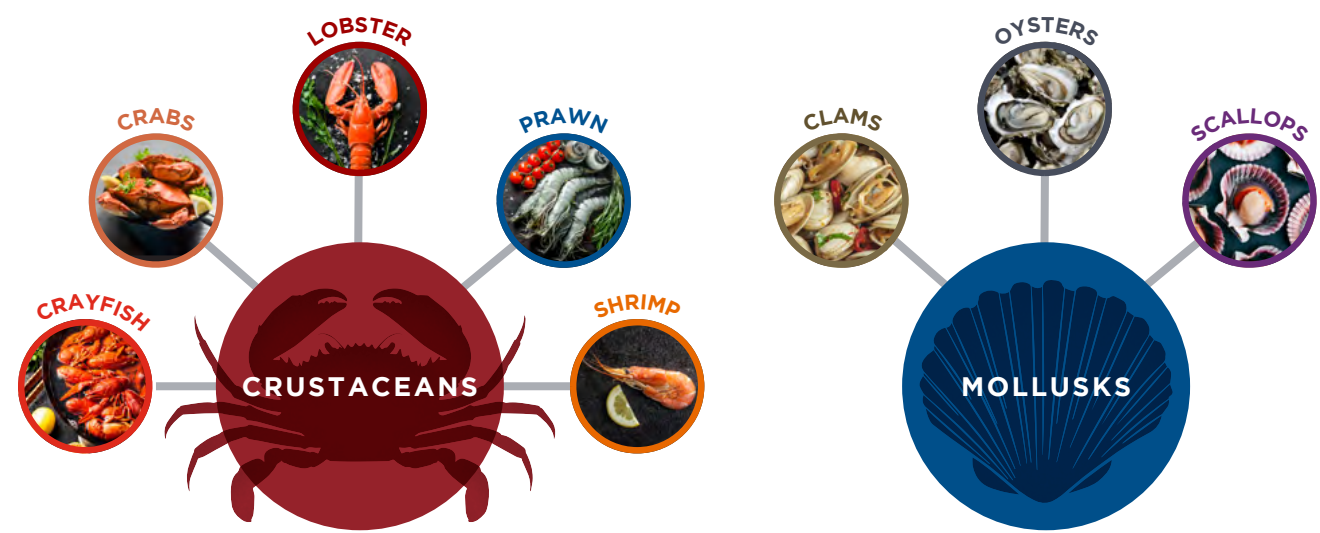


# What is Seafood?

**Short answer:** Seafood is food that comes from water. It includes fish and shellfish.

Seafood is a diverse group of foods that includes fish, crustaceans, and mollusks. **Crustaceans and mollusks are commonly referred to as shellfish—see below for examples.** Seafood is a good source of protein, minerals, vitamins, and essential omega-3 fatty acids while being low in saturated fats. Many seafood options are low in cholesterol. Nutrition facts for different types of seafood vary depending on species and diet. Seafood counts toward the protein foods group when learning how to create a healthy eating routine using USDA's [MyPlate](#).

## Shellfish Groups



## Unpacking the Many Different Definitions of Seafood


The word **seafood** can carry different meanings depending on the context and who is using the term. Let’s look at some examples.

### sea·food

/ˈsēˌfo͞od/  
noun

1. Edible marine fish and shellfish. *Merriam Webster Dictionary*
2. Edible aquatic animals, excluding mammals, but including both freshwater and ocean creatures. *Encyclopedia Britannica*
3. Fish or shellfish that can be eaten as food. *Cambridge English Dictionary*
4. All commercially obtained freshwater and saltwater fish, molluscan shellfish, and crustaceans. Molluscan shellfish (or mollusks) and crustaceans are both commonly referred to as shellfish. *U.S. Food and Drug Administration (FDA)*
5. Seafood is shellfish such as lobster, mussels, and crabs, and sometimes other sea creatures that you can eat. *Collins Dictionary*

You can see from the examples listed above that definitions may exclude freshwater fish or fish altogether, while others may include both freshwater and marine fish as well as shellfish. You will also find the term “fish” in documents, like the Food and Drug Administration’s (FDA) [Advice for Eating Fish](#), to include “shellfish and fish.” The two things that all definitions have in common are aquatic animals and edibility.

 **Tip:** When talking about seafood, be sure to explain what you are referring to when you use the term seafood.





## Types of Seafood



### • Saltwater Fish

Saltwater fish are harvested from marine environments like oceans, seas, and gulfs as well as from brackish water environments where fresh and saltwater mix, most commonly found in estuaries. Some popular saltwater fish you can find in grocery stores and restaurants are cod, halibut, salmon, and tuna.



### • Freshwater Fish

Freshwater fish are harvested from freshwater environments like rivers, lakes, and ponds. Some popular examples of freshwater fish are catfish, bass, and trout. Midwest regional examples are lake whitefish, lake trout, yellow perch, and walleye.



### • Mollusks

Mollusks, also known as molluscan shellfish, are aquatic invertebrates that have one or two shells. Some popular examples are clams, oysters, and scallops.



### • Crustaceans

Crustaceans are aquatic animals with hard exoskeletons commonly referred to as shells. Some popular examples are crabs, crayfish, lobster, and shrimp.



### • Cephalopods

Cephalopods are aquatic invertebrates that do not have shells like mollusks and crustaceans. Some popular examples are octopus and squid. Calamari, Italian for squid, is a popular word used to describe squid rings and tentacles on restaurant menus.



### • Roe

Roe are unfertilized egg masses collected from fish and other aquatic animals. Roe can come from crayfish, fish, urchins, lobsters, and other aquatic animals.



### • Caviar

Caviar is salt-cured unfertilized fish roe from sturgeon. In the United States, you may find salt-cured fish eggs from fish other than sturgeon, like paddlefish, sold as caviar. The U.S. Food and Drug Administration (FDA) allows for any type of salted fish roe to be labeled and sold as caviar. Some popular examples are sturgeon, paddlefish, and trout caviar.



# Nutrition Benefits of Eating Seafood

Seafood is packed with protein and essential nutrients that are an important part of healthy eating patterns. In the sections below, you'll find examples of seafood products that pack the most punch when it comes to specific nutrients as well as seafood types your client might want to avoid if they need to limit a certain nutrient for health reasons.

## Protein

Proteins are the building blocks that your body needs to develop and maintain bones, muscles, cartilage, skin, hair, nails, and other parts of your body. You also need protein to build and repair tissue, move nutrients, make enzymes to digest food, and regulate hormones. Seafood is a good source of high-quality protein that is nutrient-dense—high in vitamins, nutrients, and other minerals important for your health but low in calories—and contains all the amino acids your body needs.

## Fat

Seafood, in general, is low in both total fat and saturated fats. Fat has more calories per gram than protein, so eating seafood—instead of fattier meat proteins—can reduce the number of overall calories eaten.

Fish with high levels of healthy fats are commonly referred to as “fatty fish” or “oily fish,” and they have considerable amounts of oil throughout their body tissues. This oil contains omega-3 fatty acids like docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). Because your body cannot make significant amounts of these fatty acids, you need to get

them from outside sources such as seafood because they are essential for a functional nervous system and optimal brain health. Additional benefits of eating seafood rich in omega-3 fatty acids include helping to prevent heart disease, improve eye health, and contribute to healthy fetal development, just to name a few.

Examples of fatty fish include herring, mackerel, salmon, sardines, trout, tuna, and lake whitefish harvested from the Great Lakes.

“Lean fish” are low in total fat and saturated fat. Lean fish, in general, contain omega-3 fatty acids but not in significant amounts.

## Cholesterol

Like other animal proteins, seafood contains cholesterol. In general, seafood options contain low levels, but some types—like shrimp and lobster—contain higher levels of cholesterol. Fish roe, caviar, fish livers, and parts of crustaceans that fulfill the function of a liver—like the part of crab referred to as crab mustard—contain higher levels of cholesterol compared to the muscle tissue of the same animal. Squid contains the highest levels of cholesterol in the seafood family.

## Sodium

The current recommendation for healthy adults is to limit daily intake of sodium to a maximum of 2,300 milligrams (mg). If you are considered to be high-risk for heart disease or stroke due to high blood pressure, you may benefit by lowering your daily sodium intake to 1,500 mg per day unless your doctor has given you different guidance. Seafood is naturally low in sodium, so it's a good option to include in your healthy eating pattern.

In general, a 3-ounce serving of cooked fish contains less than 100 mg of sodium. Shellfish like shrimp, lobster, and crab generally contain more sodium than fish at roughly 100-500 mg of sodium per 3-ounce cooked portion. Some processed seafood products—like smoked fish, brine-frozen crab legs, and canned products like tuna, sardines, caviar, and anchovies—will contain additional sodium, so always check your seafood labels to see how much sodium there is per serving.

## Vitamins and Minerals

Seafood, in general, is a natural source for a variety of vitamins and minerals. Fish provides a good source of B vitamins, which are important for maintaining cells and energy. Fatty fish contain vitamins A, D, and B2 (riboflavin). Canned fish, like sardines and salmon, are good sources of calcium. Most seafood contains at least small amounts of minerals such as iron, potassium, magnesium, iodine, and zinc. Typically, shellfish like shrimp, lobster, and crab contain higher amounts of minerals than fish.



## Why Eat Seafood?

Eating seafood regularly as part of a healthy eating pattern can improve your overall health. Below you'll find ways that seafood helps your heart, brain, and even babies as they develop in the womb.



### Heart Health

Seafood is low in saturated fats compared to fatty meat proteins. Eating animal proteins low in saturated fats, like seafood, can lower your risk for cardiovascular disease. Many seafood options—especially fatty fish like salmon, herring, lake whitefish, and trout—contain omega-3 fatty acids, which research has shown to reduce your risk of stroke and heart disease.



### Recommendations

The American Heart Association recommends eating at least two servings of cooked fish, preferably of fatty fish, per week. One serving is 3 ounces of cooked fish or  $\frac{3}{4}$  cups of flaked fish. Some recommended options that are high in omega-3 fatty acids are salmon, herring, lake whitefish, trout, anchovies, mackerel, black cod, sardines, bluefin tuna, striped bass, and cobia.

## Digital Resources

-  [Fish and Omega-3 Fatty Acids \(American Heart Association\)](#)
-  [Diet and Lifestyle Recommendations \(American Heart Association\)](#)







## Brain Booster

Seafood provides an omega-3 fatty acid called DHA (docosahexaenoic acid), and it is essential for brain development and function. DHA is important for all stages of life but especially critical for the developing brain of unborn babies and children under the age of 6. Your brain needs DHA to function and regenerate cells in all stages of life, and it may also improve learning and memory function in older adults.<sup>1</sup>

DHA is not produced in the brain, and only small amounts are made by the liver. The liver does not produce enough to maintain healthy brain development and function, so you need to get additional DHA from the food you eat.

Your brain receives DHA in three ways:

1. During fetal development, you get DHA from your mother.
2. Children and adults get DHA mostly through food.
3. Small amounts of DHA are produced by the liver.<sup>2</sup>

### *What foods contain DHA?*

The best food source of DHA is seafood. High levels of DHA are found in fatty fish (e.g., salmon, tuna, trout, and herring) and shellfish (e.g., oysters, clams, mussels, and snow crab) and in low levels in almost all seafood.

### *Are there vegan alternatives?*

Seaweed, algae, and algae-based supplements contain DHA.



## Seafood During Pregnancy

Research scientists, the Food and Drug Administration (FDA), and the Environmental Protection Agency (EPA) agree that eating seafood while pregnant and nursing is an important part of a healthy eating pattern for both mother and baby.

What you eat when you're pregnant can affect the development of your baby's nervous system and brain. Here are some facts about developing brains:

- At birth, your baby's brain weighs 70% of an adult brain.
- Most children's brains will continue to grow until they are 5-6 years old.
- DHA is essential for healthy brain development.<sup>3</sup>

Consuming essential fatty acids and DHA while pregnant can result in your child having higher:

- Mental processing scores.
- Cognitive, emotional, motor, and social capacity through psychomotor development.
- Eye-hand coordination.
- Ability to see objects in the distance.<sup>4</sup>

## Digital Resources

- 🌐 [Eat Midwest Fish: Why Eat Fish?](#)



# How Much Seafood Should I Eat?

**Short Answer:** For adults, eating seafood two times a week as part of a healthy eating pattern is an easy way to improve overall health.

The amount of seafood recommended to maintain overall good health depends on many factors, including age and recommended caloric intake.

In this section you will find information and recommendations for specific age groups.



### Infants and Toddlers (6-23 months)

Seafood with long-chain polyunsaturated fatty acids, especially omega-3 and omega-6, are essential for development in the first two years of an infant’s life.

- At 6 months, babies can be introduced to a variety of different foods, including seafood.
- It is encouraged to feed toddlers (1-3 years of age) 2-3 ounces of seafood per week.<sup>5</sup> Choose options with high levels of omega-3 fatty acids and avoid seafood that is high in mercury. See the section on [Weighing Benefits and Risks](#) for more information on mercury and seafood.
- Examples of seafood options to avoid are king mackerel, orange roughy, and shark.



### Children (2-11 years) and Adolescents (14-18 years)

The FDA and EPA recommend that children up to 11 years old limit exposure to foods that contain mercury. Recommendations include:

- Eat two servings of seafood a week.
- For children between the ages of 2 and 11, eat 2-8 ounces of seafood per week.
- For adolescents between the ages of 14 and 18, eat 8-10 ounces of seafood per week.

Weekly recommendation for seafood intake based on caloric intake level, age, and sex can be found in the USDA’s Dietary Guidelines for Americans (2020-2025). Encourage clients to consult a pediatrician for specialized seafood dietary advice when possible.



**Adults (18-59 years)**  
According to the USDA’s Dietary Guidelines for Americans (2020-2025), adults should eat 8-12 ounces of seafood per week as part of a healthy dietary pattern. One way to accomplish this is by eating at least two 4-ounce servings per week.

According to the those same USDA guidelines, 75% of Americans meet or exceed recommendations for meat, poultry, and eggs, but almost 90% of Americans do not meet the recommendation for seafood.<sup>5</sup>



**Adults (60+)**  
According to the USDA’s Dietary Guidelines for Americans (2020-2025), adults 60 years of age or older should eat 8-10 ounces of seafood a week. One way to accomplish this is by eating two 4-ounce servings per week.



**Those Who Are Pregnant or Lactating**  
Recommendations for pregnant and lactating individuals have been developed by the US Food and Drug Administration (FDA) and the US Environmental Protection Agency (EPA) to maximize omega-3 fatty acid intake while limiting exposure to mercury. Seafood choices that provide high levels of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) and low levels of methylmercury are recommended and categorized as “Best Choice” seafood options. A few examples of “Best Choice” options are rainbow trout, salmon, and sardines. It is recommended that those who are pregnant or breastfeeding eat 8-12 ounces of seafood per week in the form of two to three 4-ounce servings.

Below, you will find resources for “Best Choice” seafood options and additional information about eating seafood while pregnant or nursing.

### Digital Resources

- 🌐 [Fish for your Health™](#)
- 🌐 [Advice about Eating Fish](#) (has links for printable PDF’s in English and Spanish)
- 🌐 [Take the Pledge—#Seafood2xWk](#)

### Printable Resources

- 📄 [Fish for your Health™ Printable Wallet Card](#) (English) (Spanish)
- 📄 [Advice About Eating Fish: For Those Who Might Become or Are Pregnant or Breastfeeding and Children Ages 1-11 Years](#) (English) (Spanish)



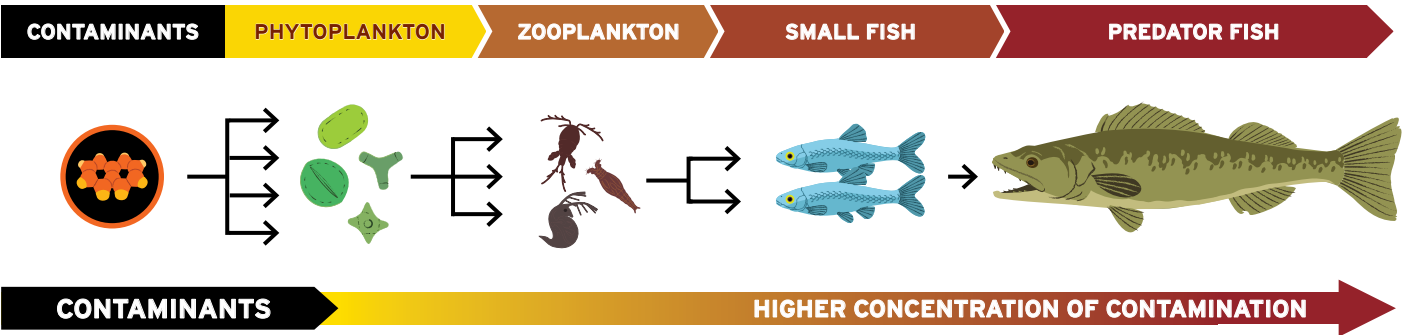
# Weighing Benefits and Risks

## How do contaminants get into fish?

Fish and shellfish may become exposed to contaminants, like heavy metals, throughout their lifespans from what they eat as well as from contaminants present in their environment. When fish and shellfish consume contaminants, those contaminants build up in their bodies in a process called bioaccumulation. Unlike humans, fish and shellfish are not able to get rid of these contaminants over time. That is why when talking about contaminants and safety, what fish eat and how old they are is important. Simply put, fish “are what they eat.”

### Bioaccumulation in the food chain

Predator fish that eat small fish are more likely to have elevated contaminant levels compared to small fish that consume smaller aquatic organisms.



### Mercury

Mercury is a highly toxic, poisonous, heavy metal. Bacteria in the environment change mercury to methyl-mercury, a form of mercury that is easily transferred throughout the food web and, therefore, throughout the seafood we consume.

#### How does mercury get into the environment?

Mercury can be both naturally occurring and result from human activities. It is most commonly released from rock and ends up in the air and water. It can result from events such as:

- Volcanoes erupting.
- Forests burning.
- Rocks or other materials containing mercury weathering and eroding.
- Burning municipal and medical waste.
- Burning fossil fuels to create energy.
- Mining for gold and other metals.
- Manufacturing.

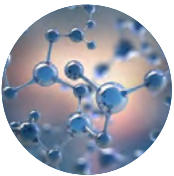
#### Mercury and Children

Overexposure to mercury, especially in unborn fetuses and children, can lead to mercury poisoning. Mercury poisoning can result in:

- Lower IQ.
- Poor eye development.
- Delayed talking and walking.
- Seizures.
- Impaired hearing.
- Poor coordination and fine motor function.
- Memory problems.<sup>6</sup>

### Digital Resource

[Mercury Exposure and Children's Health](#)



### PCBs (*polychlorinated biphenyls*)

Polychlorinated biphenyls, commonly called PCBs, are human-made substances that have been banned in the United States since 1979. Because they were good for manufacturing, PCBs were produced in many products and materials before the Toxic Substances Control Act went into effect. They are a group of contaminants that can cause serious health risks to people who eat a lot of contaminated fish. PCBs do not break down quickly and tend to build up in animal fat.

#### How do PCBs get into the environment?

Even though PCBs are banned today, they can still be released by:

- Burning old wastes and releasing them into the air, eventually causing them to settle on the ground or in water.
- Leaking from outdated electrical transformers containing PCBs.
- Leaching into the ground and water from landfills and spill sites.

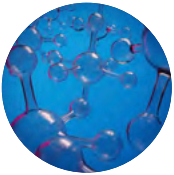
#### PCBs and Children

PCBs are toxic and can pose serious health risks to children and unborn babies. PCB poisoning can result in:

- Developmental delays.
- Slow growth.
- Preterm delivery.
- Low birth weight.

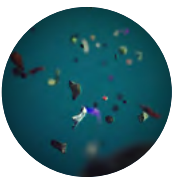
#### PCBs and Pregnancy Planning

PCBs are long-lasting and break down slowly, taking up to 6 years to be removed from the human body. That is why if you are planning to become pregnant, it is recommend to avoid eating fish known to have unsafe levels of PCBs. For more information about fish you should eat or avoid if you are planning on becoming pregnant, visit the Fish for your Health™ website and talk to your doctor.



### PFAS (*per- and polyfluoroalkyl substances*)

PFAS are human-made chemicals—including compounds like perfluorooctanoic acid (PFOA) and perfluorooctanoic sulfonic acid (PFOS)—that have been used worldwide since the 1940s. PFAS are widely studied in animals including fish, but, unlike mercury and PCBs, the effects of PFAS on human health are not well understood.



### Microplastics

Microplastics are exactly what you would think they are from their name—very small pieces of plastic. They have been found in almost all environments and in many organisms, including fish and humans. The question is: are microplastics harmful? Scientists and researchers know that microplastics are shed from items like plastic containers and clothing and then enter the environment where they can be consumed by fish and other organisms, but it is not clear if they are harmful to humans.

### Digital Resource

[Microplastic are everywhere—but are they harmful?](#)  
(summarizes microplastic research to date and touches on future research).



# Balancing the Benefits and Risks of Eating Seafood

Experts have concluded that the benefits of eating seafood outweigh the potential risks, and eating a variety of different types of seafood optimizes the health and reduces the safety risks of consumers.<sup>7,8,9</sup>

## What seafood is safe to eat?

### Purchasing Seafood

When purchasing seafood at the grocery store, from a local market, restaurant, or farm, you can use commercial fish consumption advice and guidelines to learn what types of fish and shellfish are safe for you to eat. Fish consumption advice is available for those who may become pregnant, those who are pregnant or breastfeeding, and children. Healthy adults in the United States who don't fall into these categories typically do not eat enough fish to have concerns about the possible risks of eating too much.

Fish and seafood consumption advice typically will give you guidance on:

- What types of seafood to eat.
- What types of seafood to avoid.
- How much seafood to eat.
- How frequently to eat specific types of seafood.

### Digital Resources

- [Fish for your Health™](#)
- [Advice about Eating Fish \(PDF's in English and Spanish\)](#)

### Printable Resources

- [Fish for your Health™ Printable Wallet Card \(English\) \(Spanish\)](#)
- [Advice About Eating Fish: For Those Who Might Become or Are Pregnant or Breastfeeding and Children Ages 1-11 Years \(English\) \(Spanish\)](#)
- [Choose Your Fish: Recommendations for Women & Children \(Minnesota Department of Health brochure\)](#)

### Eating Your Catch

The contaminant levels in wild fish, including recreational captured fish and shellfish, are unique to a location. It is recommended to check with state fish consumption advisories before eating your catch. If you are unsure, play it safe and “catch and release.”

### Digital Resources

- [Eat Midwest Fish: Advisories](#)
- [Fish for your Health™: State Advisories](#)



# Allergies

Around 6.6 million Americans (2.3% of the population) are allergic to seafood.<sup>10</sup> Allergic reactions range from mild to severe and may vary from person to person.

Mild symptoms of seafood allergies include:

+ Hives (urticaria).	+ Swelling (angioedema).
+ Tingling of the throat and mouth.	+ Digestive problems (vomiting, diarrhea).

Severe symptoms of seafood allergies include:

+ Difficulty breathing & swallowing (anaphylaxis).	+ Low blood pressure (shock).
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For people who are allergic to seafood, it is not uncommon for a doctor or medical provider to recommend avoiding all seafood or avoiding one or more seafood groups. For example, if you are allergic to shrimp, you may be advised to avoid all crustaceans (e.g., lobster, crab, crayfish).

If you have a shellfish allergy, don't eat:

⊘ Abalone.	⊘ Octopus.
⊘ Clams.	⊘ Prawns.
⊘ Crabs.	⊘ Scallops.
⊘ Crawfish / crayfish.	⊘ Shrimp.
⊘ Lobster.	⊘ Snails.
⊘ Mussels.	⊘ Squid (calamari).

For a complete list of shellfish to avoid, consult with your allergist or primary health care provider.

### Digital Resource

- [Food Allergy 101: Shellfish Allergy | Shellfish Allergy Symptoms \(Food Allergy Research & Education\)](#)



### Did You Know?

About 14% of people allergic to crustaceans (e.g., lobster, crab, crayfish) are also allergic to mollusks (e.g., clams, oysters, scallops).<sup>11</sup>



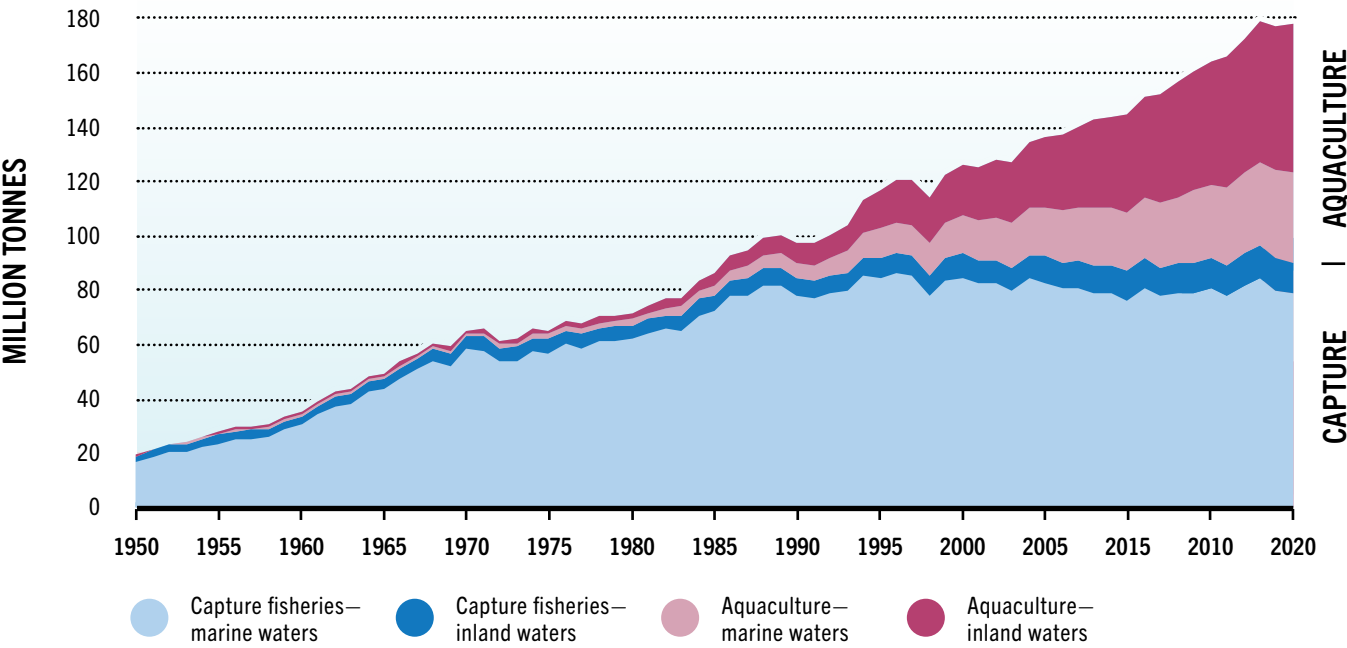
# Choosing the Best Seafood for You

## Wild-Capture and Farm-Raised

For decades, there has been an ongoing debate: Is wild-caught (wild-capture) better than farmed? Fisheries managers and aquaculture farmers sometimes go head-to-head in marketing and sales, but in reality, they are both important producers of safe and healthy food. You can get tasty, safe, and sustainably managed seafood options from both the wild and from farms.

The graph below from the Food and Agriculture Organization of the United Nations tracks trends in global seafood production by sector. It takes both industries—fisheries and aquaculture—to meet the increasing global demand for seafood.

World Capture Fisheries and Aquaculture Production



NOTES: Excluding aquatic mammals, crocodiles, alligators, caimans and algae. Data expressed in live weight equivalent.

SOURCE: Food and Agriculture Organization of the United Nations.

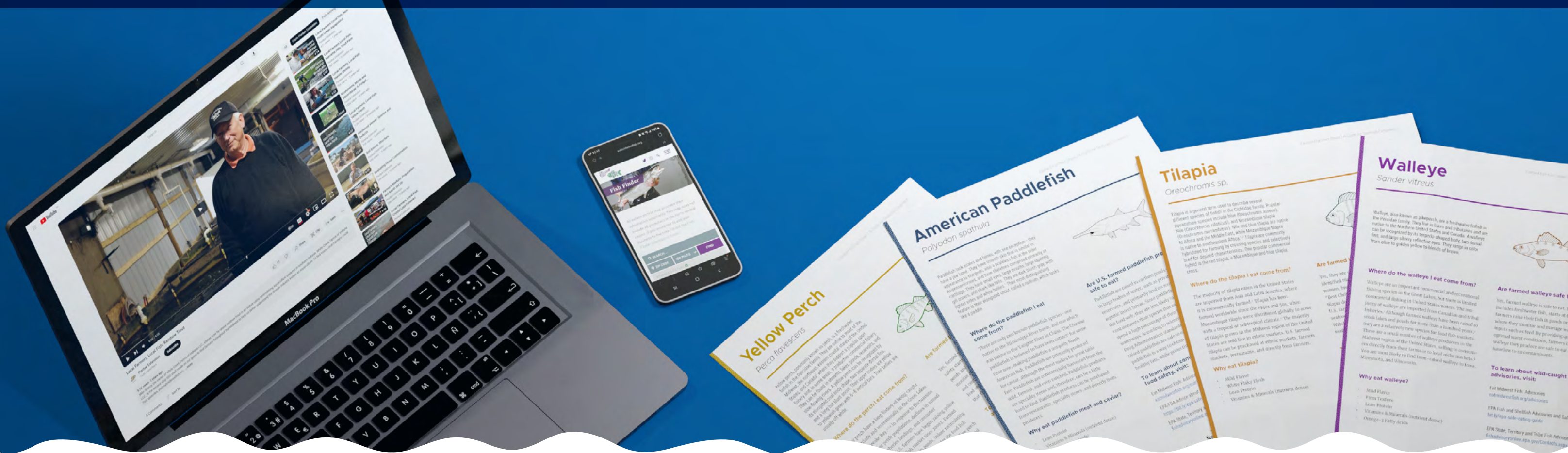
### Seafood production data tells us that:

- Wild-capture fisheries production has leveled off since the 1980s.
- There is a limited volume of seafood that is harvested from the wild each year.
- The global demand for seafood is greater than what can be sustainably harvested from the wild.
- It takes both wild-capture fisheries and aquaculture to meet global seafood demand.
- Aquaculture production is likely to continue to increase to meet increasing demands for seafood.

## Third Party Certification Programs & Seafood Guides

Third party certification programs have been established to help consumers find sustainably sourced seafood. Guidelines for certifications vary from program to program. Looking for certification logos on product packaging can help you make informed purchasing decisions.

	 NOAA Fish Watch	 Monterey Bay Aquarium Seafood Watch	 Best Aquaculture Practices (BAP)	 Marine Stewardship Council (MSC)
Website	<a href="https://fisheries.noaa.gov/topic/sustainable-seafood">fisheries.noaa.gov/ topic/sustainable-seafood</a>	<a href="https://seafoodwatch.org">seafoodwatch.org</a>	<a href="https://bapcertification.org">bapcertification.org</a>	<a href="https://msc.org/what-we-are-doing/our-approach/what-does-the-blue-msc-label-mean">msc.org/ what-we-are-doing/our-approach/ what-does-the-blue-msc-label- mean</a>
Organization	National Oceanic and Atmospheric Administration (NOAA)	Monterey Bay Aquarium	Global Aquaculture Alliance	Marine Stewardship Council
Program Description	Government supported sustainable seafood profile guide	Non-profit sustainable sourcing seafood guide	Non-profit sustainable sourcing seafood guide	Non-profit supported eco-label
Geographic Area	US federally managed marine waters	Global	Global	Global
Wild-Capture	✓	✓		✓
Farm-Raised	✓	✓	✓	
Nutrition Facts	✓			
Recipes	✓		✓	✓
Limitations (Excludes)	Fish harvest from state waters		Small to medium scale farms	Farm-raised



## Video Resources Featuring Regional Fishers & Farmers

### Local Farmer, Local Fish

- ▶ Local Farmer Local Fish: Aquaponics (features Illinois tilapia and lettuce farmer).....(3:34)
- ▶ Local Farmer Local Fish: Crystal Lakes Fisheries (features Missouri trout farm).....(3:05)
- ▶ Local Farmer Local Fish: Harrietta Hills Trout Farm (features Michigan farm).....(2:50)
- ▶ Local Farmer Local Fish: Largemouth Bass (features Illinois farm).....(3:02)
- ▶ Local Farmer Local Fish: Marine Shrimp (features Indiana farm).....(3:15)
- ▶ Local Farmer Local Fish: Non-Profit Urban Aquaponics (features Illinois non-profit).....(4:14)
- ▶ Local Farmer Local Fish: Rainbow Trout (features Indiana farm).....(4:27)
- ▶ Local Farmer Local Fish: Yellow Perch (features Wisconsin farms).....(4:23)

### A Word From...

- ▶ A Word from Baileys Harbor Fish Company (ft. Wisconsin based fishers and fish market owners).....(1:10)
- ▶ A Word from Bodin Fisheries (feature Wisconsin based fishers).....(0:59)
- ▶ A Word from Craig Hoopman Fisheries (feature Wisconsin based fishers).....(0:59)
- ▶ A Word from Halvorson Fisheries (feature Wisconsin based fishers).....(1:01)
- ▶ A Word from Lake Orchard Farm (features Wisconsin tilapia and lettuce farmer).....(1:50)
- ▶ A Word from Plymouth Springs Fish Co (ft. Wisconsin based fishers and fish market owner).....(1:01)
- ▶ A Word from Red Cliff Fish Company (feature Wisconsin based tribal fishers).....(1:13)

## Printable Resources Featuring Regional Raised Fish & Shellfish

- 📄 American Paddlefish Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Atlantic Salmon Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Channel Catfish Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Pacific White Shrimp Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Rainbow Trout Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Tilapia Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Yellow Perch Farmed Fish Fact Sheet: A Guide for Seafood Consumers
- 📄 Walleye Farmed Fish Fact Sheet: A Guide for Seafood Consumers

More farmed fish fact sheets: <https://eatmidwestfish.org/local-fish/fish-guide/>

## Digital Resources for Finding Fresh Fish in the Midwest

- 🌐 Eat Midwest Fish: Fish Finder (features food fish and fee-fishing businesses located in the Midwest.)
- 🌐 Eat Wisconsin Fish (features Wisconsin fishers, farmer, and markets selling food fish.)
- 🌐 Great Lakes Fresh Fish Finder (features Great Lakes fishers, farmers, and markets selling food fish, and it includes aquaculture businesses selling other products like bait, ornamental plants and animals, pond stockers, and recreational fish opportunities [fee-fishing].)
- 🌐 Local Catch Network (a hub for knowledge exchange and innovation that features community-based seafood suppliers.)
- 🌐 Choose Copi (a website for wild harvest carp and includes a page on how to find it near you including in restaurants and fish markets.)





## Tips and Tricks for Purchasing Seafood

Selecting the right seafood is critical for health safety and enjoyment. It is important that seafood is handled safely from the time it is harvested to the time it is eaten to reduce the risk of foodborne illness, commonly called “food poisoning,” and to make sure your meal tastes delicious.

### When shopping for...

#### Whole fresh fish, look for:

- ✓ Clear, bright eyes.
- ✓ Moist, firmly attached scales.
- ✓ Vibrant color.
- ✓ Red gills (*not faded*).
- ✓ Mild smell (*not “fishy,” sour, or rotten*).
- ✓ Firm (*flesh springs back after gentle pressure is applied*).
- ✓ Displayed on a thick bed of ice.

#### Fish fillets, look for:

- ✓ Good color (*no discoloration or darkening*).
- ✓ Moist.
- ✓ Mild smell. (*not “fishy,” sour, or rotten*).
- ✓ Firm.

#### Fresh but “previously frozen” fish, look for:

- ✓ Mild smell. (*not “fishy,” sour, or rotten*).

### When shopping for...

#### Fresh shellfish, look for:

- ✓ Clear flesh with pearl-like coloration.
- ✓ No odor.
- ✓ Intact shells (*avoid cracked or broken shells*).
- ✓ Shellfish that close when tapped (*must pass the “tap test”*).
- ✓ Leg movement (*crabs, lobster, and crayfish*).
- ✓ Labels (e.g., *country of origin, farm-raised, wild-caught*).
- ✓ Live shellfish sack labels (*harvest and processing information, national shellfish controls information*).

#### Frozen seafood, look for:

- ✓ Solid packaging (*avoid ripped, torn, or crushed*).
- ✓ Packaging that is free of frost or ice crystals.
- ✓ Completely frozen (*hard*).

#### Shelf stable seafood, look for:

- ✓ Solid packaging (*avoid ripped, torn, or crushed*).
- ✓ Expiration date.
- ✓ Ingredients (*allergens*).

### Digital Resource

- ▶ [3 Tips for Selecting Tasty Seafood](#) (*listen to one Michigan trout farmer’s advice for selecting fresh seafood to help ensure that you have a good seafood experience*)
- 🌐 [Selecting and Serving Fresh and Frozen Seafood Safely](#) (*United States Department of Agriculture*)



# Seafood Labeling

Product labels, including seafood packaging labels and display tags, are provided to help consumers decide what products to purchase based on preferences and health concerns.

When reading seafood labels, look for these best practices:

Seafood Basics

4 SALMON FILLETS

SKIN ON & BONELESS

ALLERGY ADVICE: FOR ALLERGENS, SEE INGREDIENTS IN BOLD

INGREDIENTS: SALMON (SALMO SALAR) (FISH)

Amount Per Serving	% Daily Value*	Amount Per Serving	% Daily Value*
Total Fat: 11g	15%	Total Carbohydrate: 0g	0%
Saturated Fat: 2g	10%	Dietary Fiber: 0g	0%
Trans Fat: 0g		Total Sugars: 0g	0%
Cholesterol: 45mg	15%	Includes 0g Added Sugars	0%
Sodium: 80mg	3%	Protein: 21g	42%
Vitamin D: 10mg	50%	Calcium: 0mg	0%
Potassium: 376mg	8%	Iron: 0mg	0%

CONTAINS SALMON • PERISHABLE • KEEP REFRIDGERATED • COOK THOROUGHLY

Seafood labels should be straightforward.

Allergen warnings are clearly printed.

Ingredients are listed.

Nutritional facts are present.

Intended use information (e.g., raw or cooked) is present.

Avoid purchasing products that list ingredients generically, especially if you have food-related allergies or are pregnant. Seafood labeled as “fish” does not give you enough information to make an informed decision.

Labels are typically found on pre-packaged products found in refrigerated and frozen sections of the grocery store as well as the canned meats aisle. Products sold fresh in the seafood department of the grocery store, from a market, or directly from farmers or commercial harvesters may not include a label but a display tag instead. Display tags include information like price, country of origin, and whether it came from a farm or the wild.

In general, labels and tags can be helpful tools for making informed decisions based on dietary preferences, health requirements and restrictions, and values.



## Mislabeling

Mislabeling has been known to occur in the seafood industry. The Food and Drug Administration (FDA) is the regulatory authority in charge of making sure that seafood is processed and distributed in a wholesome and safe manner and is properly labeled.

FDA’s regulatory authority for seafood labeling is found in the:

- Federal Food, Drug, and Cosmetic Act.
- Fair Packaging and Labeling Act.
- Public Health Service Act.
- Food Allergen Labeling and Consumer Protection Act.

When inspecting seafood, FDA inspectors are looking to see if products are labeled clearly and accurately and are not incorrect or misleading.

Examples of mislabeling seafood include:

- Products with inaccurate food weight declarations (less or more than advertised).
- Not including the use of preservatives or color treatments (e.g., carbon monoxide to make red color last longer).
- Not declaring added water.
- Species substitution (e.g., swai labeled as catfish).

## Digital Resource

- ▶ [FDA and Seafood Labeling Part 1](#)
- ▶ [FDA and Seafood Labeling Part 3 \(tips for consumers from 4:12–4:47\)](#)



# Seafood Preparation and Safety Tips

Many consumers lack the confidence and skills to prepare and serve seafood at home. Consumer preference researchers found that in 2019, the number one reason Americans did not eat seafood at home was perceived difficulty or uncertainty in how to prepare it.<sup>12</sup> This study showed a need, and an opportunity, for nutrition and wellness educators to have a positive impact by helping build clients' skills and confidence when it comes to cooking seafood at home.

## Seafood Safety

Seafood safety does not stop at the point of purchase. How you handle, store, prepare, and cook seafood at home are also important steps for ensuring that your seafood is safe and tasty.

### Storage Tips

- ✓ Put seafood on ice until you can put it in the refrigerator or freezer.
- ✓ If eating seafood within two days of purchase, store in the refrigerator (40°F or less).
- ✓ If not eating seafood within two days of purchase, wrap it tightly using plastic wrap or freezer paper and store it in the freezer.
- ✓ When fishing, keep your catch in an ice packed cooler until you are able to store it properly at home.



### Thawing Tips



#### Slow Thawing

Thaw it in your refrigerator overnight. Remove the seafood from its packaging if possible. If not, cut one end of the packaging to allow oxygen to enter.



#### Moderately Quick Thawing

Place in sealed plastic bag and immerse in cold water.



#### Quick Thawing

Microwave on "defrost" setting. Do not thaw completely in the microwave as it may begin to cook.

### Cooking Tips

You know seafood is done when its internal temperature is 145°F and you observe one or more of the following:

- ✓ Flesh turns opaque in color.
- ✓ Muscle segments separate easily when you apply a little pressure with a fork.
- ✓ Shrimp, crab, and crayfish shells turn pink/red and flesh becomes firm.
- ✓ Clam, mussel, and oyster shells pop open.

When cooking shellfish with two shells, you know that they are safe to eat when their shells pop open. If the shells do not pop open after cooking, throw them out—they are not safe to eat.

### Serving Tips

- ✓ Limit how long seafood is left out of the refrigerator to 2 hours or less, or to no more than an hour if the air temperature is above 90°F.
- ✓ Keep chilled seafood (e.g., shrimp) refrigerated, then serve on ice.
- ✓ Keep hot seafood hot until serving.

### Raw Seafood Tips

It is recommended to cook seafood to an internal temperature of 145°F to kill any bacteria that may be present. If you choose to eat raw seafood, make sure it has been frozen and thawed properly before you eat it. Freezing seafood kills parasites that may be present. If you are pregnant, DO NOT eat raw seafood. DO NOT feed raw seafood to infants or children.



# Preparation and Nutritional Value

How food is prepared is an important consideration when deciding what to eat as part of a healthy eating pattern. The nutrition values of seafood, like other animal protein options, can be affected by preparation (e.g., breading, cooking fats, sauces) and heating method (e.g., grilling, boiling, roasting, microwaving, and frying). Below are a few examples of how nutritional values are affected by heating methods.

Table 1. Changes in nutritional value of fresh sardines (*Sardinapilchardus*) by heating method<sup>13</sup>

Cooking Method	Fresh	Grilled	Boiled	Fried	Roasted	Microwaved
Heating Time (min)	0	15	25	15	25	7
Protein (g/100g)	20.2	32.1	28.7	22.6	30.0	33.8
Crude Lipid	9.80	4.70	6.50	11.1	5.50	5.90
Essential Fatty Acids (EPA+DPA+DHA) (g/100g F.A)	12.97	15.91	13.79	17.75	15.76	16.46
Vitamin A* (IU)	108	114	78	137	87	99
Vitamin E (mg %)	1.30	1.59	0.90	1.70	1.29	1.52
Vitamin B6 (mg)	0.10	0.06	0.03	0.08	0.05	0.07
Vitamin B2 (mgc)	300	210	150	270	220	280
Vitamin B12 (mcg)	9	6.2	4.9	7.5	6.7	8.4
Macro -elements of Calcium (mg/100g)	72	84	52	61	111	164
Micro-elements of Iron (mg/100g)	1.2	1.4	0.7	0.9	1.2	1.3
Iodine (mg/100g)	–	–	–	–	–	–
Potassium (mg/100g)	316	269	182	195	248	237

\*Soluble in fat

Table 2. Changes in nutritional value of shrimp (*Panaeus semisulcatus*) by heating method<sup>14</sup>

Cooking Method	Fresh	Grilled*	Boiled*	Fried* (in sunflower oil)
Heating Time (min)	0	10	15	7
Protein (%)	18.39±0.25	25.65±1.07	20.02±1.21	20.95±1.15
Fat (%)	3.75±0.01	4.84±0.88	5.12±0.67	6.32±0.98
Carbohydrate (%)	1.28±0.03	1.16±0.02	1.56±0.03	1.1±0.03
PUFA	–	–	–	–
Omega 3 fatty acid (mg/100 g)	239.34±15.67	224.85±2.03	217.65±4.07	235.65±3.36
Omega 6 fatty acid (mg/100 g)	98.81±13.39	93.71±3.5	87.54±1.59	143.83±2.04
Vitamin A (IU)	0.30±0.02	0.31±0.06	0.26±0.01	0.34±0.03
Vitamin E (mg)	10.30±0.33	9.43±1.02	8.73±1.4	12.19±0.35
Vitamin B1 (µg)	18.55±2.96	7.83±1.73	6.28±0.65	4.24±1.4
Vitamin B2 (µg)	34.57±1.44	15.32±3.7	10.02±1.87	14.66±2.4
Vitamin B6 (µg)	–	–	–	–
Vitamin B12 (µg)	2.41±0.42	1.12±0.21	1.04±0.8	1.53±0.6
Calcium (mg/100g)	291.00±2.65	324.71±1.53	273.26±3.21	313.64±1.73

\*Shrimp were salted with 1 tsp of salt per 500 grams of flesh, placed in a plastic bag, and stored in a refrigerator until heated.



Table 3. Changes in fat content of bluegill, trout, red snapper, and mackerel after frying<sup>15,16</sup>

	Freshwater Fish (Mai et al., 1978)						Saltwater Fish (Gail et al., 1983)					
	Bluegill <sup>LF</sup>		Trout <sup>FF</sup>				Red Snapper <sup>LF</sup>			Mackerel <sup>FF</sup>		
	Raw	Fried	Raw	Baked	Fried	Pan-Fried	Raw	Baked	Fried	Raw	Baked	Fried
Fat Content (g/100g dry weight)	–	–	26.6	18.3	22.0*	32.4	6.6	4.9	20.2*	37.1	36.5	30.2*
Total fat (g/100g)	0.54	18.44	7.34	–	7.64**	–	1.50	–	5.49**	13.75	–	12.42**
Saturated fat (%)	26.1	13.5	18.5	–	18.9**	–	33.3	–	21.6**	36.2	–	30.2**
Monounsaturated (%)	22.4	44.8	42.4	–	41.1**	–	22.1	–	21.4**	30.5	–	28.0**
Polyunsaturated (%)	51.4	41.7	39.2	–	40.1**	–	42.0	–	56.1**	30.0	–	38.8**

LF: Lean fish    FF: Fatty fish    \*Deep-fried    \*\*Pan-fried

Fried Fish Take-Aways

- Lean fish like bluegill and red snapper absorb frying oil as they are fried.
- Fatty fish like mackerel absorb less fat when fried compared to lean fish like red snapper.
- Seafood that is breaded and then fried will absorb more frying oil than seafood that is not breaded.

Air Frying vs. Deep Frying

- Air-fried fish uptakes less frying oil than deep-fried fish.
- Air-fried breaded fish cutlets have a lower fat content than conventional deep frying.<sup>17</sup> (Josh, et al. 2021)
- Air-fried breaded fish contains more moisture and protein than deep-fried fish.<sup>17</sup> (Josh, et al. 2021)
- Air frying fish can be a healthier frying option than deep frying.<sup>17</sup> (Josh, et al. 2021)

Cooking with Seafood: Techniques and Methods

Seafood is versatile and can be used in many types of recipes, including appetizers, soups, salads, and main entrées. There are several basic cooking methods and techniques that are fast and simple as well as others that take a little longer. Longer cooking allows time to prepare sides.

Cooking times for seafood depend on the type, weight, thickness, and cooking temperature. Thin portions cook faster than thick portions, so always check the internal temperature of the thickest portion of a fillet. Fish is done when the internal temperature is 145°F.



Braising

Braising or stewing is a moist-heat cooking technique that is commonly used for French cooking and traditional Chinese dishes. Braising fish is a fast and easy way to prepare a one-pot meal. When braising fish, you want to start with a flavorful braising liquid since the cooking time will be short — about 8 minutes. Seafood can be braised in many different liquids, like coconut milk or tomato juice. You can flavor the braising liquid with herbs, spices, and vegetables, then cook it down (make a reduction) and serve it with your seafood dish.



Broiling

Broiling is the process of applying heat from above. This technique is best used for fatty fish like salmon but can also be used for lean fish like tilapia and catfish. Broiling can be used to cook or finish fish to add flavor and texture to seafood dishes. For fish with edible skin, broiling can be a great way to crisp the skin. When broiling fish, check it often to prevent overcooking.



Frying

Fried seafood is coated with batter, flour, and breadcrumbs, or cornmeal and then submerged in hot oils that have high heat points — like soybean or peanut oil — or placed in an air fryer. Popular breadcrumbs for frying include cornmeal and panko, a Japanese style bread crumb that has a lot of crisp texture.

There are several methods for coating seafood. French cooking uses a three-step method: dip food in flour, then in egg, and finally in breadcrumbs. In the southern United States, seafood is dipped in a liquid like buttermilk or two-parts vinegar to one-part water, shaken, and then dipped in cornmeal.

When deep frying, heat cooking oil to 350–375°F before adding seafood. Air frying is a healthier alternative to deep frying and gives you the texture and flavor of deep-fried fish with less fat because you don’t need to use frying oil.





### Grilling

Grilling is a great way to add flavor to seafood while keeping the smells of cooking seafood outside. When grilling, avoid keeping seafood over high heat for prolonged periods of time. Seafood is best when cooked over a combination of direct and indirect heat. One way to do this is to place fillets skin side down over direct heat. Once the skin starts to char on the edges, carefully remove fillets from the grill grate and move over indirect heat or reduce the flame until done. Grilling time could be as short as three minutes or as long as 45 minutes—it depends on seafood type, seafood thickness, grilling method, and temperature. A general rule of thumb is to grill fish eight minutes for every 1 inch of thickness.



### Microwaving

Cooking fish in the microwave is fast and easy. Simply season fillets, wrap with a wet paper towel or microwave-safe plastic, and cook on high. This is a fast and easy way to get dinner on the table in under five minutes. Fillets take about 2–3 minutes to cook in the microwave. Thick fillets may take up to five minutes.



### Poaching

Poaching is a low-heat method that involves cooking seafood submerged or partially submerged in liquid. This technique is often a slower way to cook seafood compared to high-heat methods. To poach seafood, simply place it in 170°F seasoned liquid. Maintain the temperature of the liquid at 170°F throughout the cooking process. At this temperature, your poaching liquid will barely simmer. Poaching fresh fish takes between 6–15 minutes depending on seafood type, portion size, and thickness. Examples of poaching liquids are chicken broth and fish stock. Add onions, garlic, and herbs to flavor it. If you like moist seafood that does not have to be carefully monitored during cooking to prevent drying out, this might be a good fit for you.



### Roasting

Roasting is a great way to add flavor to your meal without overcooking and drying out your fish. Roasting can be used to cook both fillets and whole fish. There are generally two methods for roasting fish: slow or fast. Slow roasting is easy—simply place lightly seasoned fish in the oven between 275–300°F for about 20 minutes per inch of thickness. Fast roasting is also easy, and has a bonus—it's fast. To fast roast fish, place lightly seasoned fish in the oven at 400–425°F and cook for 6–8 minutes per inch of thickness. Take care when roasting fish using high heat because it's easier to accidentally overcook it. The higher the cooking temperature, the more frequently you will want to check it. When roasting whole fish, set your oven at 350–375°F.



### Sautéing

Sautéing is a quick and easy method for cooking a variety of different kinds of fish and shellfish. To sauté fish, cook over medium to medium-high heat. Place fillets in the pan, being careful not to overcrowd it. Overcrowding will reduce the heat and can leave you with soggy fish. Cook fish 80–90% through and then flip once to finish. Fillets typically take 5–7 minutes per ½ inch of thickness. When sautéing skin-on fillets, score the skin with a sharp knife to prevent the edges from curling, then place the fillet skin-side down in the pan. Flip once to finish.



### Stir Frying

Stir frying is a quick method of cooking meat and vegetables in a pan that is very hot. When ingredients are added, you should hear loud cracking, hissing, and popping, and you might see steam. Because the pan is very hot, you need to toss or stir the ingredients often so that they don't burn. Stir frying basics are straightforward: add high-heat oil, like peanut oil, to a pan (about 1 tablespoon for a 12-inch skillet) and heat over medium-high heat until the oil simmers. Once the oil is hot, add spices and other ingredients for flavor. Meat and/or fish is then added and tossed rapidly, sealing in the juices. When your protein is almost cooked through, remove it. Meat and fish are always cooked first, followed by vegetables. When vegetables are cooked through, return your meat or fish to the pan.



# Cooking with Seafood: Finding Creative Ways to Eat Seafood Twice per Week

Seafood is commonly eaten in soups, sandwiches, tacos, and as dinner entrées. If you want to find creative ways to eat two servings of seafood per week, try adding it to your breakfast or lunch menu. Below are a few ideas:



## Seafood for Breakfast

**Eggs and Fish:** Fish is an excellent source of protein and nutrients that can be added to almost any style of eggs. Fish can be added to frittatas, egg bake mixtures, or folded into an omelet. Fish can also be cooked and served as extra protein with eggs (e.g., trout and eggs).

**Eggs and Shellfish:** Scrambles are quick and healthy. Eggs and shellfish are both an excellent source of protein. Add some vegetables and sprinkle with cheese to add a little extra flavor.

**Breakfast Burritos:** Add small pieces of shrimp to your eggs and scramble. Place your shrimp and eggs in a warm tortilla, top with cheese and your favorite hot sauce or salsa, roll, and eat. Breakfast burritos are fast to make and an easy on-the-go option.

**Waffles:** Smoked fish can be a delicious addition to savory waffles. Instead of sweet syrup or toppings, savory seafood waffles are served with herbs, Greek yogurt or sour cream, and lemon.



## Seafood for Lunch

**Fried Rice and Seafood:** Leftover rice and seafood is perfect for making fried rice. Adding cooked shrimp or fish to your rice is an easy way to add protein and flavor. Add cooked seafood toward the end of the cooking time—just long enough to warm it up.

**Seafood and Grits:** If you like grits, you would most likely agree that grits are delicious for breakfast, lunch, or dinner. Top your grits with shrimp or crayfish and a dash of Cajun seasoning to spice up your next meal.

**Seafood Burgers:** Looking for a heart healthy alternative for your next cookout? Salmon burgers can be made with canned salmon and served on a bun with all your favorite fixings.



**Seafood Wraps:** Wraps are fast, easy, and portable. They are great for picnics and are easy to eat on-the-go. Simply add cooked fish or shellfish to a wrap along with lettuce and vegetables, lightly drizzle with your favorite dressing or sauce, roll, and eat.

**Seafood Bowls:** Top a serving of rice with flaked cooked fish or shrimp, vegetables, and a dash of your favorite seasoning blend or sauce, then eat. Seafood bowls are a fun way to experiment with different flavor combinations and a great way to use up leftovers.

**Seafood Salads:** Seafood is a healthy way to add protein to a chilled summer salad. Salads can be made and chilled in the refrigerator until it is time to eat.





# Recipes

## Breakfast



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Mini Fish Frittatas



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Scrambled Eggs with Shrimp (China)



23

Smoked Fish Waffles



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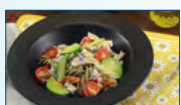
Spinach and Crab Breakfast Muffins

## Lunch



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Easy Tuna Salad



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Pasta Seafood Salad



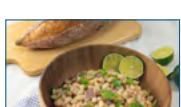
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Peruvian Fish Ceviche (Peru)



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Southwest Seafood Salad



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Tuna White Bean Salad

## Dinner



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Air Fried Fish



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Caramelized Garlic Shrimp (Vietnam)



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Fish in Foil



33

Herb & Lemon Roasted Bass



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Kung Pao Shrimp (China)



35

One-Pan Shrimp Fajitas (Mexico)



36

Roasted Salmon



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Sautéed Tilapia

### Digital Resources

- [BudgetBYTES Seafood Recipes](#) (includes recipe and serving cost, nutrition facts, printable PDFs)
- [Celebrate My Plate](#) (includes nutrition facts, printable PDFs)
- [Eat Midwest Fish](#)
- [Myplate.gov](#) (English) (Spanish)
- [Seafood Nutrition Partnership](#) (recipes can be searched by meal, dietary considerations, cooking method, and seafood type.)

Nutritional information is estimated. Values were calculated using methods described on the [Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University](#) website. Nutritional information for individual ingredients was taken from the [U.S. Department of Agriculture's \(USDA\) FoodData Center](#) when available. Product packaging labels were used if the information was not available in the FoodData Center database.



# Mini Fish Frittatas

PREP TIME: 10 MINUTES • TOTAL TIME: 30 MINUTES • SERVES: 6 PEOPLE

## INGREDIENTS

- ½ cup raw ground fish (or 1 cup cooked flaked fish)
- 1 Tbsp extra virgin olive oil
- 1 small onion, finely chopped
- salt and pepper
- 6 large eggs
- 2 ounces cheese, shredded or crumbles
- 1 Tbsp chopped green onions (or fresh chives)

## SUPPLIES

- ☒ muffin pan (standard)
- ☒ non-stick cooking spray
- ☒ baking sheet
- ☒ cutting board
- ☒ knife (for chopping)
- ☒ paring knife
- ☒ wooden spoon
- ☒ skillet
- ☒ medium bowl

**Note:** Smoked or grilled salmon would pair nicely with goat cheese, but that could get expensive. A less expensive option would be to use mild flavored white fleshed fish and cheddar cheese. Nutritional information was calculated for flaked grilled salmon and goat cheese.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 123 • Protein 11g • Total Fat 11g • Sodium 224mg • Carbohydrates 1g • Cholesterol 179mg  
(\*does not include salt and pepper)

1. Preheat oven to 425°F. Grease 6 cups of a standard muffin pan with oil or cooking spray. Place the muffin pan on a baking sheet to catch drips.
2. In a skillet, heat oil over medium heat until hot. Add onions and cook, stirring occasionally, until lightly brown, about 5 minutes. If using cooked flaked fish, remove from heat.
3. If using raw, ground fish add to skillet and season with salt and pepper. Break into bite size pieces with a wooden spoon as it cooks, about 2 minutes.
4. Add the eggs, cheese, and green onions to a bowl. Stir fish into egg mixture and season with salt and pepper.
5. Divide the egg mixture evenly between prepared muffin cups. Bake until firm, 15-18 minutes. When finished cooking remove from the oven and let cool slightly before serving. To remove mini frittatas, run the tip of a paring knife around the edges of each frittata and invert the muffin pan. Serve immediately or wrap and freeze for later.





# Scrambled Eggs with Shrimp (China)

PREP TIME: 10 MINUTES • TOTAL TIME: 15 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

8 oz shrimp, peeled and deveined  
¾ tsp salt (Kosher or sea salt)  
½ tsp white pepper  
1 tsp cornstarch  
8 eggs  
1-2 Tbsp oil (e.g., peanut)  
2 green onions, sliced

## SUPPLIES

- ☒ medium mixing bowl
- ☒ small mixing bowl
- ☒ paper towels
- ☒ measuring spoons
- ☒ fork
- ☒ cutting board
- ☒ knife
- ☒ pan/skillet/wok
- ☒ spatula

1. Put shrimp in a bowl of water to wash off any debris. Remove from water, pat dry, and transfer to small mixing bowl.
2. Add ½ tsp each salt and pepper. Toss. Add cornstarch and toss.
3. Place eggs and ¼ tsp salt in bowl and beat with a fork until yolks are fully broken apart and the eggs begin to froth.
4. Heat the oil in a non-stick pan over a medium high heat until the oil is hot. Add marinated shrimp. Let cook for 30 seconds before touching. When the bottom turns white, flip and cook until all shrimp are almost cooked through.
5. Remove the pan from the heat. Pour eggs into pan. Let the eggs set around the edge, then gently push the set eggs to one side letting the unset egg run into the pan.
6. Turn the heat to low and return pan to the heat. Repeat the process of letting the eggs set a little and then pushing them to the side. Remove pan from the heat if the eggs start to cook to fast. Continue cooking until the eggs are creamy, just cooked through or to your desired doneness.
7. Once done immediately transfer to plates and sprinkle with green onions. Scrambled eggs and shrimp can be served over steamed rice.
8. Season to taste with your favorite hot sauce if desired.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 233 • Protein 24g • Total Fat 8g • Sodium 674mg • Carbohydrates 2g • Cholesterol 422mg  
(\*does not include optional rice)





# Smoked Fish Waffles

PREP TIME: 10 MINUTES • TOTAL TIME: 30 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- 2 cups flour
- 1 Tbsp sugar
- ½ tsp salt
- 2 tsp baking powder
- 3 Tbsp dill, chopped
- ½ cup smoked fish, haddock
- ⅓ cup cream cheese
- 1 cup cheddar cheese, shredded
- 2 large eggs
- 1 cup Greek yogurt
- ½ cup + 2-3 Tbsp milk
- 1 Tbsp oil

## SUPPLIES

- ☒ large bowl
- ☒ medium bowl
- ☒ measuring spoons
- ☒ measuring cups
- ☒ mixing spoon
- ☒ fork
- ☒ waffle iron

**Note:** Recipe adapted from  
Imagelicious.com

1. In a large bowl mix flour, sugar, salt, and baking powder. This step can be done in advance.
2. Add cream cheese and mix until cream cheese balls are about the size of a pea.
3. Add dill, shredded cheese, and smoked fish. Mix.
4. In a medium mixing bowl add eggs, yogurt, and ½ cup milk. Mix until smooth.
5. Add wet ingredients to dry ingredient and mix. If the batter it to dry add 2-3 tablespoons of milk.
6. Add oil and mix. Do not over mix. The batter should be lumpy.
7. Cook in preheated waffle maker according to the manufacturer's instructions.
8. Serve with chopped dill and Greek yogurt or light sour cream.

## NUTRITIONAL INFORMATION PER SERVING

Calories 751 • Protein 34g • Total Fat 74g • Sodium 1107mg • Carbohydrates 66g • Cholesterol 358mg



BREAKFAST



# Spinach and Crab Breakfast Muffins

PREP TIME: 15 MINUTES • TOTAL TIME: 40 MINUTES • SERVES: 12 PEOPLE

## INGREDIENTS

One 6 oz can lump crab meat,  
drained  
2 cups spinach leaves, chopped  
½ cup cherry tomatoes, halved  
1 cup Swiss cheese, shredded  
½ loaf day-old Italian bread, crust  
removed and cubed (½ inch)  
10 large eggs  
salt and pepper  
½ tsp tarragon, dried

## SUPPLIES

- ☒ muffin pan
- ☒ non-stick spray
- ☒ baking sheet
- ☒ can opener
- ☒ knife (chopping)
- ☒ cutting board
- ☒ cheese grater (if needed)
- ☒ medium bowl
- ☒ fork or whisk
- ☒ measuring cups (½ and 1 cup)
- ☒ measuring spoon (½ tsp)

**Note:** Canned tiny shrimp  
or cooked crayfish tail meat  
can be substituted for lump  
crab meat.

1. Preheat oven to 350 °F. Spray a 12 muffin pan with non-stick spray. Place muffin tin on a baking sheet.
2. Divide bread evenly and put in the bottom of muffin pan. Add spinach, crab, tomatoes, and ½ cup cheese.
3. Place eggs in a medium or large bowl and beat. Add tarragon and season with salt and pepper. Beat until well mixed.
4. Pour eggs into muffin pan cups. Fill cups about ¾ full. Do not fill to the top.
5. Sprinkle tops with the remaining ½ cup of cheese.
6. Bake for 20-25 minutes or until puffy and golden brown. Serve hot or wrap and freeze for later.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 116 • Protein 12g • Total Fat 3g • Sodium 181mg • Carbohydrates 6g • Cholesterol 161mg  
(\*does not include salt and pepper)





# Easy Tuna Salad

PREP TIME: 15 MINUTES • TOTAL TIME: 15 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

Two 5 oz cans/pouches tuna  
(skip jack or light)  
¼ cup light mayonnaise  
1 stalk of celery, diced  
2 Tbsp red onion, diced  
1-2 Tbsp parsley, chopped  
½ Tbsp dijon mustard (optional)  
salt and pepper  
bread, 4-8 slices (optional)  
lettuce (optional)

## SUPPLIES

- ☒ can opener
- ☒ knife (chopping)
- ☒ cutting board
- ☒ medium bowl
- ☒ ¼ cup measuring cup
- ☒ measuring spoons

**Note:** Tuna salad can also be served on a small piece of leaf lettuce or stuffed into avocado halves.

1. Drain the liquid from the tuna cans.
2. Add tuna, mayonnaise, celery, red onion, parsley, and Dijon mustard to a medium bowl and mix until well combined.
3. Add salt and pepper to taste. Stir.
4. Serve between two slices of bread or as an open-faced sandwich. Add lettuce if desired.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 105 • Protein 12g • Total Fat 5g • Sodium 318mg • Carbohydrates 1g • Cholesterol 35mg  
(\*does not include bread, lettuce, salt, or pepper)





# Pasta Seafood Salad

PREP TIME: 20 MINUTES • TOTAL TIME: 29 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- 5-6 oz. chuck light tuna  
(or cooked flaked fish)
- 2 cups spiral pasta, uncooked
- 1 cup pea pods, cut length wise
- ½ small zucchini or yellow summer squash, sliced (half circles)
- ½ cup red onion, sliced
- ½ cherry tomatoes, cut in half
- 1 6 oz can sliced ripe olives, drained (optional)
- ¾ light dressing (Dijon vinaigrette, Ranch or Italian)

## SUPPLIES

- ☒ pot
- ☒ colander
- ☒ can opener
- ☒ large bowl
- ☒ measuring cups
- ☒ mixing spoon

**Note:** Recipe adapted from Seafood Nutrition Partnership

## NUTRITIONAL INFORMATION PER SERVING

Calories 309 • Protein 8g • Total Fat 23g • Sodium 606mg • Carbohydrates 19g • Cholesterol 13mg

1. Cook pasta according to directions on package. When done drain and rinse with cold water to cool.
2. In a large bowl combine tuna, pasta, pea pods, zucchini, red onion, tomatoes, and olives.
3. Add dressing and mix well. Chill until ready to serve.





# Peruvian Fish Ceviche (Pern)

PREP TIME: 20 MINUTES • TOTAL TIME: 55 MINUTES • SERVES: 6 PEOPLE

## INGREDIENTS

2 lbs white fish fillets (e.g., Mahi-Mahi)  
1 cup lime juice  
1 lime, wedged  
1 small red onion  
3 medium peppers (e.g., habanero)  
½ cup fresh cilantro, finely chopped  
1 tsp ginger, grated  
salt

## SUPPLIES

- ☒ paper towels
- ☒ medium bowl
- ☒ knife (for chopping and slicing)
- ☒ 2 cutting boards
- ☒ grater

1. Wash and pat fish dry. Cut fillets into ¾ inch cubes.
2. Put fish cubes in a medium bowl. Add lime juice. The acid in the lime juice will serve to cook the fish. Make sure that the fish is covered by the juice. Cover the bowl and put in the fridge for 20-30 minutes.
3. While the fish is resting wash the peppers. Remove the seeds and veins from the peppers. Cut peppers into small squares.
4. Cut peeled onion into thin strips.
5. Remove fish from the fridge when the flesh is opaque in color and flakes apart when you apply a little pressure.
6. Add onion, peppers, cilantro, ginger, and a pinch of salt. Stir.
7. Cover the ceviche and place in the fridge for about 10 minutes.
8. Remove and serve with a wedge of lime. Authentic Peruvian ceviche can be serves over rice or with chunks of cooked sweet potatoes, corn, and plantain chips.

## NUTRITIONAL INFORMATION PER SERVING

Calories 181 • Protein 36g • Total Fat 2g • Sodium 470mg • Carbohydrates 6g • Cholesterol 143mg





# Southwest Seafood Salad

PREP TIME: 20 MINUTES • TOTAL TIME: 20 MINUTES • SERVING SIZE: 2 PEOPLE

## INGREDIENTS

- 5-6 oz cooked flaked fish  
(or canned salmon or tuna)
- 2 cups lettuce, chopped  
(or mixed greens)
- ½ cup low sodium black beans
- ½ cup low sodium canned corn,  
drained
- ½ cup cherry tomatoes, halved
- 1 medium avocado, sliced
- 2 Tbsp red onion, chopped
- ¼ cup cilantro
- 1 lime, wedged
- 4-6 Tbsp Southwest Dressing

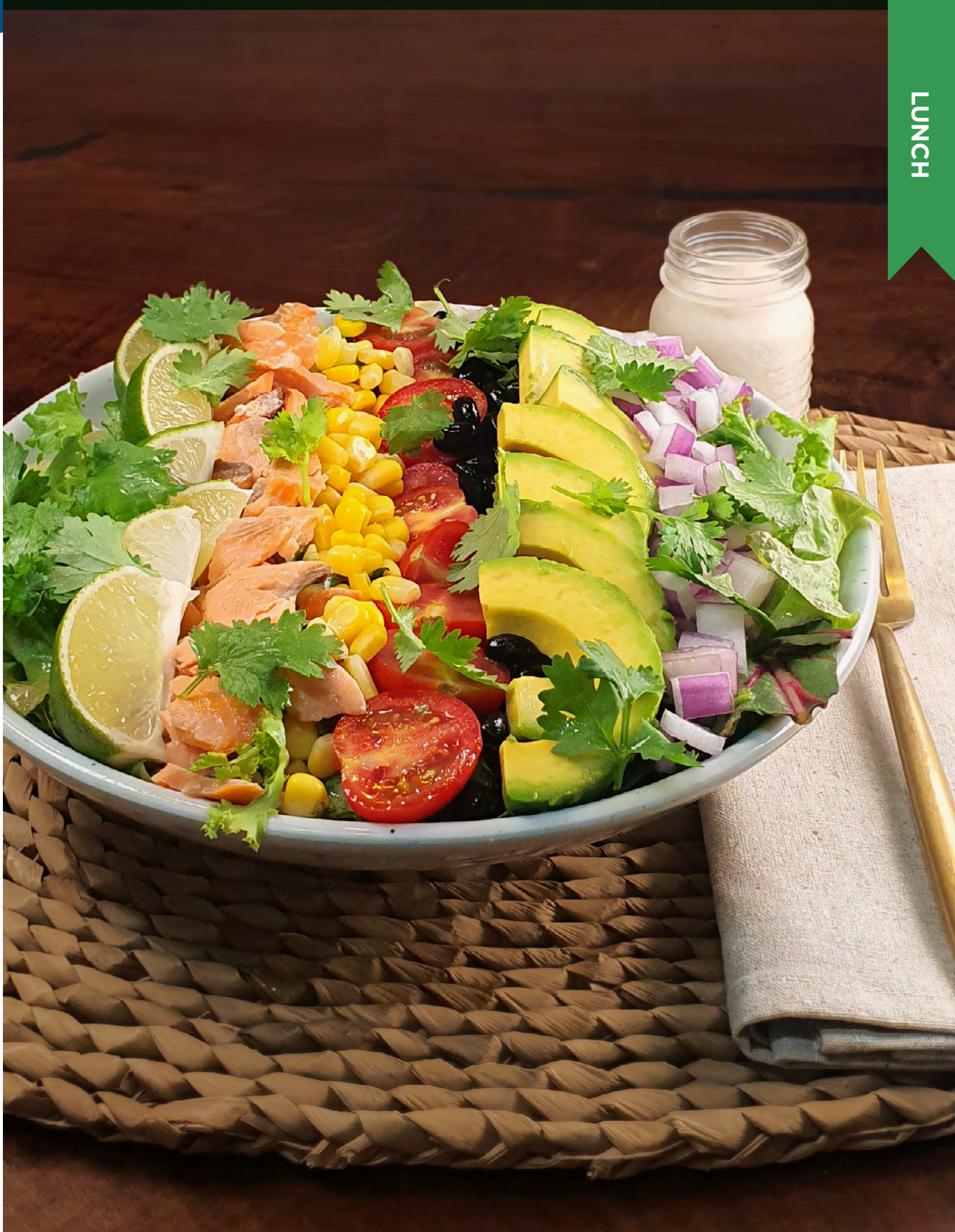
## SUPPLIES

- ☒ large bowl or platter
- ☒ can opener
- ☒ knife (for chopping and slicing)
- ☒ cutting board

1. In a large bowl or platter add lettuce. Top with black beans, corn, tomatoes, avocado, and red onion. Add flaked cooked fish, chuck light tuna, or canned salmon.
2. Sprinkle cilantro over the salad.
3. Serve with lime wedges and Southwest salad dressing.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 433 • Protein 19g • Total Fat 26g • Sodium 775mg • Carbohydrates 36g • Cholesterol 40mg  
(\*does not include salt and pepper)





# Tuna White Bean Salad

PREP TIME: 10 MINUTES • TOTAL TIME: 10 MINUTES • SERVES: 3 PEOPLE

## INGREDIENTS

- 1 15 oz. can white beans, drained
- 5-6 oz canned chunk light tuna, drained (or cooked white fish)
- 2 green onions, thinly sliced
- 1 Tbsp lime juice
- 1 Tbsp olive oil
- 1 Tbsp cilantro, chopped
- salt & pepper

## SUPPLIES

- ☒ can opener
- ☒ colander
- ☒ cutting board
- ☒ knife
- ☒ medium bowl
- ☒ fork

**Note:** Recipe adapted from Budget Bytes

1. Put beans in colander and rinse.
2. Add beans and fish to a medium bowl. Stir.
3. Add green onion and stir.
4. Add olive oil and lime juice. Stir until combined.
5. Add cilantro and salt and pepper to taste.
6. Serve immediately or chill in the refrigerator for later. Serve with crackers or over mixed salad greens.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 198 • Protein 16g • Total Fat 5g • Sodium 657mg • Carbohydrates 24g • Cholesterol 17mg  
(\*does not include salt and pepper)





# Air Fried Fish

PREP TIME: 10 MINUTES • TOTAL TIME: 30 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- 1½ lb haddock, cut into strips
- salt
- ½ cup flour (all-purpose)
- 2 large eggs, beaten
- 2 cups panko
- 1 tsp Old Bay Seasoning

## SUPPLIES

- ☒ paper towels
- ☒ 3 shallow bowls
- ☒ knife (for cutting fish)
- ☒ cutting board
- ☒ fork
- ☒ measuring cups (½ cup and 1 cup)
- ☒ teaspoon
- ☒ air fryer

**Note:** Recipe adapted from delish.com

1. Pat dry and season lightly with salt.
2. Place flour and egg in two shallow bowls. In a third bowl add panko and Old Bay seasoning and mix. Prepare one strip of fish at a time by coating fish in flour, then dipping in egg, and finally coating with panko moisture. Press coating into fish.
3. Cook in batches. Place fish in air fryer basket and cook at 400°F for 5-6 minutes, flip and cook for 5-6 more minutes or until fish is golden brown and flakes easily when you apply a little press.
4. Serve with tartar sauce or malt vinegar and lemon wedges.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 415 • Protein 21g • Total Fat 7g • Sodium 752mg • Carbohydrates 42g • Cholesterol 0mg  
(\*does not include additional salt)





# Caramelized Garlic Shrimp (Vietnam)

PREP TIME: 20 MINUTES • TOTAL TIME: 25 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- 2/3 lb medium shrimp or freshwater prawn, deveined (head on if possible)
- 1 Tbsp vegetable oil
- 1 1/2 Tbsp sugar
- 1 clove garlic, chopped
- 1 shallot, chopped
- 4 Tbsp water
- 1 Tbsp fish sauce
- 1/4 tsp salt
- 5 sprigs cilantro, cut into 2-inch lengths
- 4 serving cooked rice, warm

## SUPPLIES

- ☒ measuring spoons
- ☒ knife (for chopping)
- ☒ cutting board
- ☒ paper towel
- ☒ skillet/wok
- ☒ spatula

**Note:** Recipe adapted from Pleasures of the Vietnamese Table by Lai Pham

1. Remove veins from shrimp if not already done. To remove the veins, lay the shrimp on a cutting board. Holding the shrimp, use a sharp knife and carefully make a shallow cut through the back of the shell. Remove the vein. Clean and pat dry with a paper towel.
2. Heat oil over medium heat. When the oil is hot, add the shrimp and sugar and stir for about 1 minute.
3. Add the garlic and shallots, stir for 1 minute.
4. Add the water, fish sauce, and salt. Stir.
5. Reduce the heat and cook until the shrimp is done, and the pan is almost dry, about 1 minute.
6. Transfer to a plate, garnish with cilantro and serve immediately. Caramelized Garlic Shrimp can be served over rice.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 277 • Protein 20g • Total Fat 4g • Sodium 648mg • Carbohydrates 39g • Cholesterol 137mg  
(\*does not include salt and pepper)





# Fish in Foil

PREP TIME: 10 MINUTES • TOTAL TIME: 25 MINUTES • SERVES: 2-4 PEOPLE

## INGREDIENTS

- 2 rainbow trout fillets
- 1 Tbsp olive oil
- 2 tsp garlic
- salt
- 1 tsp ground pepper
- 2 sheets heavy-duty aluminum foil
- 1 fresh jalapeno pepper, sliced (optional)
- 1 lemon, sliced

## SUPPLIES

- ☒ aluminum foil
- ☒ measuring spoons
- ☒ knife (for slicing)
- ☒ cutting board
- ☒ baking sheet

1. Preheat oven to 400 °F.
2. Rub fillets with olive oil and season with salt and pepper. Place each fillet on a separate sheet of aluminum foil. Top with lemon slices and jalapenos, if using. Squeeze the juice from the ends of the lemon over fillets.
3. Seal all edges of the foil. Place packets on a baking sheet and place in the oven.
4. Bake for 15-20 minutes or until fish is cooked through. Fillets are done when the internal temperature is 145 °F and it flakes easily when a little pressure is applied.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 185 • Protein 16g • Total Fat 12g • Sodium 41mg • Carbohydrates 4g • Cholesterol 47mg  
(\*does not include salt)





# Herb & Lemon Roasted Bass

PREP TIME: 10 MINUTES • TOTAL TIME: 20-25 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- 4 bass fillets (4–6 oz. each)
- 1 lemon
- 1 Tbsp extra-virgin olive oil
- ¼ tsp thyme
- ¼ tsp oregano
- ¼ tsp salt
- ¼ tsp black pepper

## SUPPLIES

- ☒ baking sheet
- ☒ cooking spray or brush
- ☒ small bowl
- ☒ measuring spoons
- ☒ grater/zester

**Note:** Recipe adapted from eatmidwestfish.org

1. Preheat oven to 425 °F. Spray baking sheet with cooking spray or brush with olive oil and set aside.
2. Combine 1 tsp grated lemon rind, 1 Tbsp lemon juice, olive oil, thyme, oregano, salt, and pepper in a small bowl.
3. Place fillets on baking sheet and drizzle with oil mixture.
4. Bake for 6-10 minutes or until fish is done. Fish is done when they are opaque in color, and the internal temperature is 145 °F.
5. Remove from oven and serve with lemon wedges.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 187 • Protein 28g • Total Fat 7g • Sodium 258mg • Carbohydrates 1g • Cholesterol 127mg  
(\*using striped bass)





# Kung Pao Shrimp (China)

PREP TIME: 10 MINUTES • TOTAL TIME: 20 MINUTES • SERVES: 3-4 PEOPLE

## INGREDIENTS

- 1 lb shrimp, peeled and deveined
- 1 Tbsp cornstarch
- ¼ cup white rice vinegar
- ¼ tsp salt
- 1 Tbsp light soy sauce
- 2 Tbsp sugar
- 1 Tbsp garlic, minced
- 2 Tbsp chopped green onions
- 2 Tbsp ginger root, minced
- 1 cup peanut oil
- 3-4 servings cooked rice, warm

## SUPPLIES

- ☒ medium bowl
- ☒ 2 small bowls
- ☒ measuring cups (¼ & 1 cup)
- ☒ measuring spoons
- ☒ knife (mincing and chopping)
- ☒ cutting board
- ☒ skillet/wok
- ☒ spatula

**Note:** Recipe adapted from The Gourmet Chinese Regional Cookbook by Calvin B.T. Lee and Audrey Evans Lee

1. In a medium bowl lightly coat shrimp in cornstarch. Set aside.
2. In a small bowl combine vinegar, salt, soy sauce, and sugar. In a second bowl combine garlic, green onion, and ginger.
3. In wok or skillet heat oil to 375°F or until it is very hot. Add the shrimp. Stir-fry for about 1 minute or until shrimp turn pink.
4. Drain shrimp and remove all but about 2 Tablespoons of the oil.
5. Reheat the oil. Just before the oil begins to smoke, add garlic, green onion, and ginger. Stir until the smell of the garlic has become strong.
6. Add vinegar mixture and bring it to a boil while stirring. Add the shrimp briefly to warm them through and to reduce the sauce a little until the sauce clings lightly to the crisp but tender shrimp.
7. Remove from heat and cool slightly before serving over rice.

## NUTRITIONAL INFORMATION PER SERVING

Calories 356 • Protein 26g • Total Fat 11g • Sodium 515mg • Carbohydrates 38g • Cholesterol 181mg





# One-Pan Shrimp Fajitas (Mexico)

PREP TIME: 15 MINUTES • TOTAL TIME: 15 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

- ¼ cup olive oil
- 4 cloves garlic, minced
- 2 limes (1 juiced, one wedged)
- 1 Tbsp Cajun pepper
- 1 lb large shrimp, peeled and deveined
- ½ Tbsp cooking oil
- 2 bell peppers, sliced
- ½ medium onion, sliced
- ¼ cup cilantro, chopped
- 8 flour tortillas, small

## SUPPLIES

- ☒ paper towels
- ☒ small bowl
- ☒ 2 medium bowl
- ☒ knife (for mincing, slicing, and chopping)
- ☒ cutting board
- ☒ ¼ cup measuring cup
- ☒ measuring spoons
- ☒ plate

**Note:** Small shrimp can be substituted for large shrimp. If using small shrimp reduce sauté time, so not to overcook cook shrimp.

Recipe adapted from  
Natasha's Kitchen.

## NUTRITIONAL INFORMATION PER SERVING

Calories 555 • Protein 33g • Total Fat 22g • Sodium 1072mg • Carbohydrates 59g • Cholesterol 181mg

1. In a small bowl combine olive oil, garlic, juice from half a lime (~1 Tbsp), Cajun spice, and salt. Set marinade aside.
2. Slice bell peppers and onion about ⅓ inch thick and place in a medium bowl. Pour half of the marinade over vegetable and toss until they are evenly coated.
3. Pat shrimp dry with a paper towel. Place in a second bowl, add remaining marinade, and stir.
4. Heat a large pan over medium heat. Add ½ Tbsp oil. When the oil is hot, add shrimp. Sauté 1-2 minutes per side until cook through. Transfer to a plate.
5. In the same pan, add marinated vegetables and sauté until soft and edges turn brown, about 10 minutes. Stir occasional. When vegetables are done turn the heat off.
6. Add shrimp, cilantro, and the juice of half a lime and toss.
7. Serve fajitas with warm tortillas and lime wedges. Top with your favorite sauce.





# Roasted Salmon

PREP TIME: 5 MINUTES • TOTAL TIME: ~20 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

1 salmon fillet, skin on  
2 Tbsp extra-virgin olive oil  
salt & pepper  
1 lemon, wedged  
1 lemon, sliced

## SUPPLIES

- ☒ shallow baking pan
- ☒ knife (for slicing lemon)
- ☒ cutting board
- ☒ tablespoon

1. Preheat oven to 400°F.
2. Place salmon skin side down in a shallow baking pan.
3. Drizzle with olive oil, sprinkle with salt and pepper, and top with lemon slices.
4. Roast fish until done, about 12-16 minutes. Cooking time will depend on thickness.
5. Skin can be removed before serving.
6. Serve with lemon wedges.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 269 • Protein 20g • Total Fat 20g • Sodium 59mg • Carbohydrates 1g • Cholesterol 55mg  
(\*does not include salt and pepper)





# Sautéed Tilapia

PREP TIME: 5 MINUTES • TOTAL TIME: 15 MINUTES • SERVES: 4 PEOPLE

## INGREDIENTS

1 lb tilapia  
salt  
2 Tbsp unsalted butter  
1 lemon

## SUPPLIES

- ☒ medium pan
- ☒ knife (for cutting lemon)
- ☒ cutting board
- ☒ spatula (fish spatula)

1. Season fillets with salt and let rest until ready to cook.
2. Take ¾ of a lemon, cut wedges, and set aside. Take the remaining ¼ and cut into small slivers.
3. Preheat sauté pan on medium high heat. Melt butter in pan until color changes to brown.
4. Add lemon slivers and fillets to the pan.
5. Cook until the fillet is 80-90% done, about 4-6 minutes. Cooking time will depend on the thickness of the fillets.
6. Flip fillets and remove from heat immediately. The heat in the pan will finish cooking fillets in a couple of minutes.
7. When done remove from pan and serve immediately with a wedge of lemon.

## NUTRITIONAL INFORMATION PER SERVING\*

Calories 119 • Protein 23g • Total Fat 7g • Sodium 60mg • Carbohydrates 1g • Cholesterol 73mg  
(\*does not include salt)





# FUN FOR KIDS

In this section, you'll find a diverse range of resources thoughtfully curated to entertain and educate children. From learning tools to activities, these resources are designed to pique children's interest in seafood and promote the development of valuable skills and knowledge.



## Seafood in Schools

The Seafood Nutrition Partnership has developed a series of resources for kids that can be found on the “Seafood in Schools” page of their website. Resources include a Seafood in Schools program guide, lesson plans, recipe cards, and downloadable PDFs.

<https://www.seafoodnutrition.org/resources/seafood-in-schools/>



## Aquaculture Family Coloring Book

This print-your-own coloring book provides a fun and active way for children and adults to learn about the many kinds of aquatic animals that are raised on farms. Each two-page spread highlights one species, pairing an illustrated coloring page with accompanying text for both advanced and beginning readers, with information about aquaculture, fisheries, recreational fishing, and cooking tips.

<https://mdc.itap.purdue.edu/item.asp?itemID=24590>



## Aquaculture Family Coloring Book Read-Along

Kids can read along with the Aquaculture Family Coloring Book Read-Along YouTube video.

<https://www.youtube.com/watch?v=SuoFwO-M0zE>

# Social Media Toolkit: Using Online Platforms to Talk about Seafood

In this section, you'll find fun dates and holidays to post about eating seafood. Each section covers a three-month period, key dates to post about, talking points, and sample social media posts. Don't forget to always include some sort of photo or graphic when posting!

## Additional Resources

- [Social Media Toolkit: FDA/EPA Advice about Eating Fish \(U.S. Food and Drug Administration\)](#)







## January-March

### JANUARY

National Soup Month

National Slow Cooking Month

10<sup>th</sup> National Oysters Rockefeller Day

### FEBRUARY

National Black History Month

National Heart Month

American Heart Month

National Snack Food Month

4<sup>th</sup> National Homemade Soup Day

7<sup>th</sup> National Fettuccine Alfredo Day

18<sup>th</sup> National Crab Stuffed Flounder Day

20<sup>th</sup> National Muffin Day

### MARCH

National Nutrition Month

National Sauce Month

National Frozen Food Month

1<sup>st</sup> National Dadgum That's Good Day

9<sup>th</sup> National Crab Meat Day

12<sup>th</sup> National Baked Scallops Day

31<sup>st</sup> National Clams on the Half Shell Day

## Talking Points

### Supporting Heart Health with Seafood

February is National Heart Month. This is a time when you can focus on communicating to your clients about cardiovascular health. During National Heart Month, share posts about the role eating seafood regularly plays in keeping hearts healthy. Visit the Center for Disease Control and Prevention website to find [FastStats](#) and their latest [American Heart Month Toolkit](#).

- Heart disease is the leading cause of death in Americans.
- Making choices to eat nutritious foods and exercising regularly can help keep your heart healthy.
- Eating seafood high in omega-3 fatty acids two times per week could reduce your risk for heart disease.
- The American Heart Association, Dietary Guidelines for Americans, and the World Health Organization recommend eating seafood at least twice per week to support heart health.
- Examples of seafood high in omega-3 fatty acids include anchovies, barramundi, herring, lake whitefish, mackerel, pompano, rainbow trout, salmon, sardines, shad, tuna, and walleye.

### Health Benefits of Eating Seafood

March is National Nutrition Month. This annual education campaign was created in 1973 by the Academy of Nutrition and Dietetics. During National Nutrition Month, share posts about healthy food choices including information on the health benefits of eating seafood and tips for developing healthy eating habits. Visit the Academy of Nutrition and Dietetics' website [eatright.org](#) to find [this year's theme for National Nutrition Month](#). #NationalNutritionMonth social media toolkits may only be available online for a limited amount of time. Sample messaging may be provided in several languages. For example, the 2023 toolkit had sample messaging in English, Arabic, Chinese, Hindi, Spanish, Tagalog, and Vietnamese.

- Dietary Guidelines for Americans recommends eating seafood at least twice per week as part of a healthy eating pattern.
- Fish and shellfish are healthy sources of protein, vitamins, minerals, and omega-3 fatty acids.
- Eating seafood regularly can help prevent chronic diseases, lower the risk of heart disease, build and repair muscle tissue, and boost brain health.
- Experts recommend eating a variety of seafood types.
- Seafood is delicious and nutritious.

## Sample Social Media Posts



**Seafood Basics** @YourSocialMedia · Jan 1

Choosing the best foods for you and your [#family](#) can be challenging and even confusing. If you're looking for science-based advice on what seafood is best for you to eating during pregnancy and while breastfeeding, visit <https://fish4health.net/>.



**Seafood Basics** @YourSocialMedia · Feb 14

Eating seafood regularly plays an important role in keeping your heart beating strong. The American Heart Association suggests eating seafood at least twice a week. ❤️ [#love your heart](#).

To learn more visit <https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/fats/fish-and-omega-3-fatty-acids#:~:text=Fatty%20fish%20like%20anchovies%2C%20herring,in%20omega%2D3%20fatty%20acids>.



**Seafood Basics** @YourSocialMedia · Feb 20

Did you know what you eat when you're [#pregnant](#) can affect your baby's health? Important nutrients like omega-3 fatty acids pass from you to your baby, supporting healthy brain and eye development. Read advice from the FDA's to learn more: <https://www.fda.gov/food/consumers/advice-about-eating-fish>



**Seafood Basics** @YourSocialMedia · Mar 14

Do you like a challenge? Take the [@SeafoodNutritionPartnership](#)'s pledge to eat [#SEAFOOD2XWK](#) during [#NationalNutritionMonth](#). Eating seafood twice a week is an important part of a healthy eating pattern. Click the link and take the pledge today. <https://www.seafoodnutrition.org/pledge-2/>





## April-June

### APRIL

	Every Kid Healthy Week (Last week in April)
6 <sup>th</sup>	National Burrito Day
10 <sup>th</sup>	National Farm Animals Day
16 <sup>th</sup>	National Eggs Benedict Day
17 <sup>th</sup>	National Crawfish Day
23 <sup>rd</sup>	National Picnic Day
26 <sup>th</sup>	Stop food Waste Day
29 <sup>th</sup>	National Shrimp Scampi Day

### MAY

	Asian American and Pacific Islander Heritage Month
	National Salad Month
	National Egg Month
2 <sup>nd</sup>	World Tuna Day
10 <sup>th</sup>	National Shrimp Day
21 <sup>st</sup>	World Day for Cultural Diversity
24 <sup>th</sup>	National Yucatan Shrimp Day

### JUNE

	National Fishing and Boating Week (First Full Week in June)
7 <sup>th</sup>	World Food Safety Day
10 <sup>th</sup>	National Get Outdoors Day
18 <sup>th</sup>	International Sushi Day
18 <sup>th</sup>	National Go Fishing Day
25 <sup>th</sup>	National Catfish Day

## Talking Points



### Seafood and Healthy Kids

Every Kid Healthy was started in 2002 by Action for Healthy Kids and typically occurs during the last week in April. For example, in 2024 it will take place from April 22-26. During this week, share with your clients resources and tips for kids to be healthy and active, and share what your Every Kids Healthy Week looks like by posting photos on social media and tagging Action for Healthy Kids. Don't forget to include important facts about the benefits of eating seafood and useful tips for introducing seafood to kids. <https://www.actionforhealthykids.org/get-involved/every-kid-healthy-week/>



Photo credit: Katrina Liebich, USFWS

### Fishing for Food

June is the month to think about fishing. The first full week in June is [National Fishing and Boating Week](#) and June 18<sup>th</sup> is [National Go Fishing Day](#). In addition to providing food, fishing is a great way to get outside and enjoy nature. On June 18th and during National Fishing and Boating Week, share resources with your clients that can help them find what fish are safe to keep and eat and what fish to release. This is also a good opportunity to share safety tips for safe storage.

## Sample Social Media Posts



**Seafood Basics** @YourSocialMedia · Apr 27

Eating [#seafood](#) 2 times per week helps build hearts, brains, and muscles. Introducing healthy foods, like seafood, to kids is a great way to help your child develop healthy eating habits. Find kid friendly seafood recipes: [https://www.seafoodnutrition.org/recipes/?fwp\\_dietary\\_considerations=littleseafoodies](https://www.seafoodnutrition.org/recipes/?fwp_dietary_considerations=littleseafoodies)



**Seafood Basics** @YourSocialMedia · Jun 1

National Fishing and Boat Week is a great time to get [#outdoors](#) and learn how to fish. You can even eat your catch because seafood is part of a healthy eating pattern! (Always check seafood advisories for your area.) Learn more: <https://www.fws.gov/story/national-fishing-and-boating-week>



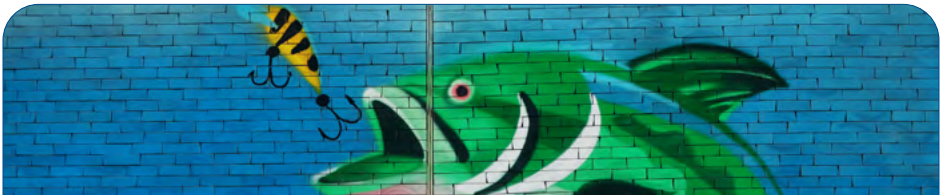
**Seafood Basics** @YourSocialMedia · Jun 10

School is out and the weather is hot. There's no better time than now to get out into nature and go [#fishing](#). Before heading out, check your local fish consumption advisory so you know what fish are safe to keep and eat, and what fish to release. Here's a list of Midwest advisories: <https://eatmidwestfish.org/nutrition-safety/advisories/>



**Seafood Basics** @YourSocialMedia · Jun 18

Do you know what species of fish are safe to catch and eat and which species are best to release? Fish consumption advisories are helpful tools for keeping up to date. Learn more: <https://eatmidwestfish.org/nutrition-safety/advisories/>







**Seafood Basics** 🌊 @YourSocialMedia · Jun 18

National Go Fishing Day is today! Grab a friend and some poles, take a picture of your catch, and tag [#NationalGoFishingDay](#) to share your whopper of a catch on social. Bonus points if you post a photo of the dinner you make with it!



**Seafood Basics** 🌊 @YourSocialMedia · Jun 18

Fishing is a fun way to get outside and enjoy nature. When keeping your catch, it's important to keep fish on ice until you can store it in a fridge or freezer. Tips on [#seafood](#) safety: <https://foodsafetytrainingcertification.com/food-safety-news/seafood-safety-on-national-go-fishing-day/>



**Seafood Basics** 🌊 @YourSocialMedia · Jun 18

There are an estimated 20,000 different fish species, and there may be as many as 20,000 more that humans haven't discovered! Scientists can figure out how old a fish is by counting growth rings on its scales or its ear bones (called "otoliths").

Learn more about different fish species and how to fish safely: <https://www.fisheries.noaa.gov/national/outreach-and-education/fun-facts-about-fascinating-fish> [#fishsafely](#) [#nationalfishingday](#)



**Seafood Basics** 🌊 @YourSocialMedia · Jun 25

Enjoy National Catfish Day by making the Food Network's fried catfish recipe. In just four steps, you can be ready to eat a tasty catfish dinner! Recipe:

<https://www.foodnetwork.com/recipes/robert-irvine/fried-catfish-recipe-1976074> [#nationalcatfishday](#) [#seafood](#) [#friedcatfishrecipe](#)





## July-September

### JULY

	National Grilling Month
3 <sup>rd</sup>	National Fried Clam Day
4 <sup>th</sup>	National Caesar Salad Day

### AUGUST

	Children's Eye Health and Safety Month
	National Catfish Month
	National Farmers Market Week (First Full Week in August)
2 <sup>nd</sup>	National Coloring Book Day
5 <sup>th</sup>	National Oyster Day
18 <sup>th</sup>	National Fajitas Day

### SEPTEMBER

	National Family Meals Month
	National Food Safety Month
	Baby Safety Month
	National Farm Animal Awareness Week (Third Week in September)
	Hispanic Heritage Month (September 15 <sup>th</sup> – October 15 <sup>th</sup> )
20 <sup>th</sup>	National Fried Rice Day
24 <sup>th</sup>	National Hunting and Fishing Day

## Talking Points



### Grilling Seafood

Summer is a great time to get outside and enjoy the warm weather. Encourage your clients to celebrate [National Grilling Month](#) with a cookout and some tasty, healthy grilled foods with family and friends. Throughout July, share fun ways to explore the art of grilling by hosting a live grilling demonstration and sharing delicious recipes and tips to inspire your clients.



### Seafood for Healthy Eyes

August is Children's Eye Health and Safety Month. Few people may think about the benefits of eating seafood for eye development and health. During this time, share tips and resources for parents and kids. Just remember: "Eat right to protect your sight." Find more tips for kids from the National Eye Institute: <https://www.nei.nih.gov/learn-about-eye-health/nei-for-kids/healthy-vision-tips>

## Sample Social Media Posts



**Seafood Basics** 🌊 @YourSocialMedia · Jul 4

Celebrate the joy of cooking outdoors with us as we share easy tips, recipes, and fun ways to explore grilling for [#NationalGrillingMonth](#). Don't miss out — check back throughout the month for grilling tips and so much more.

Easy tips for #grilling delicious fish.

1. Create a hot and cool zone by piling the hot coals on one side.
2. Coat fish with oil or marinade to help seal in the moisture.
3. Do not over-handle.
4. Place fillets skin side down so that they're parallel to the grill grates.
5. Fish is done when the internal temperature is 145 °F.

More tips on grilling fish, from Chef Barton Seaver: <https://www.youtube.com/watch?v=EAKRhpUVLO8>



**Seafood Basics** 🌊 @YourSocialMedia · Jul 18

Too hot to cook inside? Fire up the grill and try cooking something new for dinner. Check out this grilling how-to for Rainbow Trout with Apricot Salsa: <https://eatmidwestfish.org/recipes/cooking-demos/>




**Seafood Basics** 🌊 @YourSocialMedia · Aug 5

Explore the outdoors for National Grilling Month. Try grilling on your next camping trip or picnic. Pack your [#fishing](#) poles and grill your catch. Before loading up the car and heading out, check your local fish consumption advisories so you will know what fish are safe to catch and eat and what fish to release. Here's a list of Midwest advisories: <https://eatmidwestfish.org/nutrition-safety/advisories/>








**Seafood Basics**  @YourSocialMedia · Sep 14

Did you know that what you eat when you're pregnant and breastfeeding affects your baby's eyes? Eating foods rich in omega-3 fatty acids while pregnant and nursing helps support healthy eye development. Find the best fish for you and your baby: <https://fish4health.net/eating-fish/benefits-recommendations/>



**Seafood Basics**  @YourSocialMedia · Aug 1

Check it out 👁️ — it's Children's Eye Health and Safety Month, and the National Eye Institute has healthy vision tips for [#kids](#). Their number 1 tip for healthy vision is eating foods that support healthy eyes, like fish high in omega-3 fatty acids. Learn more: <https://www.nei.nih.gov/learn-about-eye-health/nei-for-kids/healthy-vision-tips>







## October-December

### OCTOBER

Hispanic Heritage Month  
(September 15<sup>th</sup> – October 15<sup>th</sup>)

National Seafood Month

National Pescatarian Month

National Cookbook Month

German American Heritage Month

2nd National Fried Scallop Day

4th National Taco Day

6th National German American Day

6th National Noodle Day

10th Indigenous Peoples' Day

12th National Gumbo Day

12th National Farmer's Day

17th National Pasta Day

19th National Seafood Bisque Day

### NOVEMBER

National Roasting Month

1<sup>st</sup> National Deep Fried Clam Day

3<sup>rd</sup> National Sandwich Day

24<sup>th</sup> National Native American Heritage Day

24<sup>th</sup> National Sardines Day

### DECEMBER

National Hand Washing Awareness Week  
(First Full Week in December)

6<sup>th</sup> National Gazpacho Day

6<sup>th</sup> National Microwave Oven Day

9<sup>th</sup> Lutefish Day

21<sup>st</sup> National French Fried Shrimp Day

## Talking Points



### Celebrate Seafood

October is a big month for seafood. Use this time to celebrate seafood, seafood farmers, fishers, and anyone who eats fish. There are days honoring fried scallops, gumbo, and seafood bisque. Throughout the month, share posts with recipes to inspire clients to try new seafood dishes.



### Locally Raised Fish and Shellfish

Many of the seafood products that your clients will find at grocery stores, markets, and from regional sellers are locally raised by farmers or caught by commercial fishers. Many of your clients may not be aware of their options for purchasing farm-raised or locally captured seafood products for holiday meals. This is a good time of the year to share resources for finding local foods ideas for hearty warm dishes to enjoy on cold winter nights and special dishes for holiday meals with family and friends.

## Sample Social Media Posts



**Seafood Basics** @YourSocialMedia · Feb 14

Brrr! What's better than coming in from the cold for a nice hot bowl of soup? Warm yourself up with a hearty bowl of chowder. Here's our favorite Bluegill Chowder recipe: <https://eatmidwestfish.org/recipe/bluegill-chowder/>



**Seafood Basics** @YourSocialMedia · Feb 14

Looking for locally produced fish or shellfish for your holiday menu? Check out the Great Lakes Fresh Fish finder to find farm-raised and wild catch suppliers near you: <https://freshfishfinder.org/>




**Seafood Basics** @YourSocialMedia · Feb 14

Looking for locally raised fish and shellfish? Eat Midwest Fish has a fish-finder map to help you connect with local businesses. Find local seafood near you: <https://eatmidwestfish.org/local-fish/fish-finder/>








**Seafood Basics**  @YourSocialMedia · Feb 14

Thinking about serving #seafood to your family and friends for the holidays? Here's what to look for when buying whole fresh fish:

1. Clear Eyes
  2. Bright Red Gills
  3. Firm Shiny Flesh
  4. Fresh Mild Smell
- Displayed on a Thick Bed of Ice



**Seafood Basics**  @YourSocialMedia · Feb 14

Nervous about overcooking that beautiful salmon you chose for your holiday meal? Use a meat thermometer — fish is done when the internal temperature is 145° F. You can also tell your salmon is done when the flesh turns opaque in color, and it flakes easily when you apply a little pressure with a fork.













# Additional Resources

## General Resources

-  [Seafood Factsheets](#) (*USDA National Institute of Food and Agriculture*)
-  [Dietary Reference Intake \(DRI\) Calculator for Healthcare Professionals](#) (*USDA National Agriculture Library*)
-  [Nurtition.gov](#) (*USDA Nurtition.gov*)

## Photo Resources

-  <https://www.pexels.com/>
-  <https://unsplash.com/>
-  <https://stocksnap.io/>
-  <https://pixabay.com/>
-  <https://ccsearch.creativecommons.org/>
-  <https://negativespace.co/>
-  <https://picjumbo.com/>
-  <https://commons.wikimedia.org/>
-  <http://phylopic.org/> (*silhouette images of animals, plants, and other life forms*)
-  <https://guides.lib.unc.edu/Images-Reuse/images> (*list of free sites*)

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Forestry and Natural Resources



**Illinois Extension**  
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