



Consumer Guide to Virginia's Finfish

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Introduction

Virginia's seafood industry generates more than \$800 million in income impacts, nearly 4,000 jobs, and \$74.7 million in taxes from fish sales in retail stores and restaurants (NMFS-NOAA, 2023). Despite the prevalence of this industry, many consumers remain unsure about how to confidently select, store, and safely prepare finfish at home. This publication provides practical guidance on Virginia's finfish (VA finfish) market and outlines safe handling practices to help consumers make informed choices and reduce the risk of foodborne illness.

Virginia Finfish Availability

The seasonal availability of Virginia's native finfish is closely tied to ecological and regulatory factors (migration patterns, spawning cycles, salinity changes, and harvest seasons), which can be used to explain why some species are consistently available fresh, while others are only present in frozen form during certain months.

Virginia finfish are generally available year-round in frozen form, as seasonal harvests are commonly frozen to extend market access. However, the availability of fresh, wild-caught species varies because many fish move between freshwater, brackish, and saltwater environments throughout the year, shift habitats during spawning, or respond to seasonal salinity changes in the Chesapeake Bay and coastal waters. Regulatory regimes also align with these biological patterns to protect stocks during vulnerable periods.

As a result of these seasonal, biological patterns, species such as Black Sea Bass, Summer Flounder, and Blue Catfish remain available fresh throughout the year, while others (e.g., Spotted Sea Trout and Bluefish) are most commonly available from March through December (figure 1) (Virginia Marine Resources Commission, 2009).

Finfish Harvesting

VA finfish may be harvested from the wild or produced through aquaculture. Table 1 compares these production methods and their regulatory oversight. Wild-caught species can carry a higher risk of

parasites, especially when eaten raw or undercooked. Aquaculture operations, by contrast, raise fish under controlled conditions that can reduce certain food safety hazards.

Because these systems can involve food safety hazards, they are governed by regulatory frameworks to ensure food safety. Wild fisheries rely on environmental monitoring, harvest controls, and post-harvest handling standards to ensure safety. On the other hand, aquaculture systems must meet requirements related to water quality, feed, stocking density, and disease management. The use of approved drugs in aquaculture is strictly regulated to ensure consumer safety. Both wild harvest and aquaculture are subject to federal and state oversight to maintain product quality and protect public health (Villalba et al., 2015).

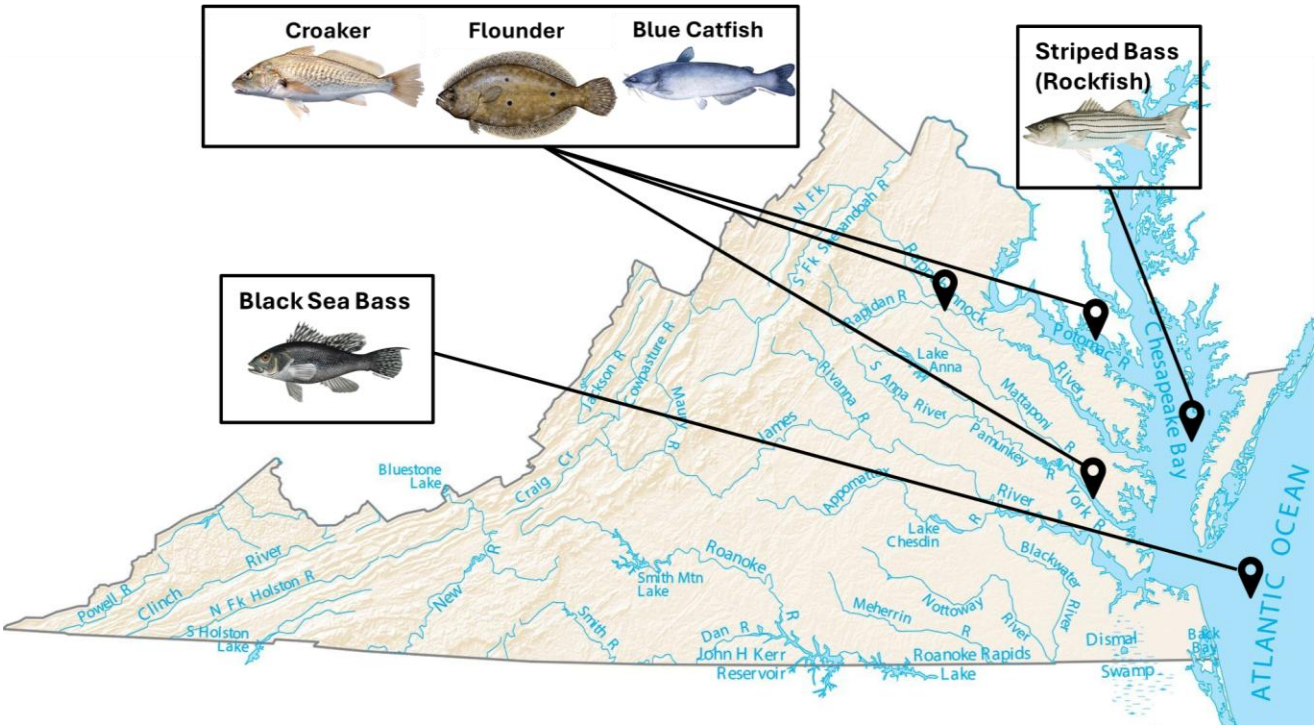


Figure 1. Virginia Map of Native, Wild-Caught Finfish Species (adapted from Virginia Marine Resources Commission, 2009).

Table 1. A comparison of wild-caught and aquaculture finfish products.

Aquaculture Finfish	Wild-Caught Finfish
Finfish harvested from controlled environments (e.g. ponds, tanks, raceways).	Finfish harvested from their natural habitat (e.g. ocean, bay, rivers).
Common VA species: Trout, Tilapia, Hybrid Striped Bass	Common VA species: Flounder, Blue Catfish, Croaker
Consume formulated feeds (soy-based fish meal, supplemented with vitamins).	Consume natural prey (e.g. plankton, smaller fish, algae, etc.).

Source: adapted from Villalba et al., 2015.

Buying Finfish Safely

The best way to identify high-quality finfish is to rely on your senses—touch, smell, and sight. Fresh fish should feel firm, have a mild, clean odor, and appear bright in color (figure 2).

All packaged finfish sold in Virginia must meet labeling requirements set by the Virginia Department of Agriculture and Consumer Services and the Virginia Department of Health. Labels must include an allergen declaration, harvest method, tamper-evident tags when required, and the country of origin (Villalba et al., 2015).

Do's and Don'ts of Buying Finfish

- | | |
|--|--|
| ☒ Firm and vibrant flesh | ☒ Slimy/browning flesh |
| ☒ Odorless or ocean-like scent | ☒ Ammonia-odor |
| ☒ Held at or below 40°F during transit | ☒ Large ice crystals |
| | ☒ Held in “danger zone” (40-140°F) |

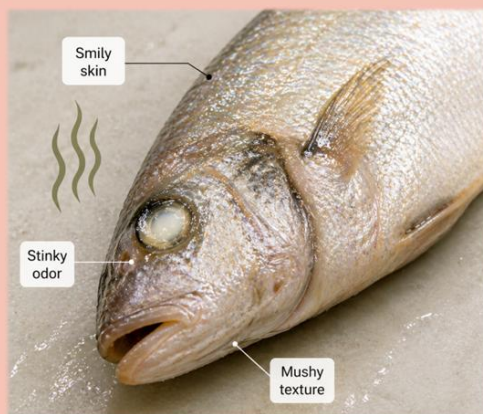
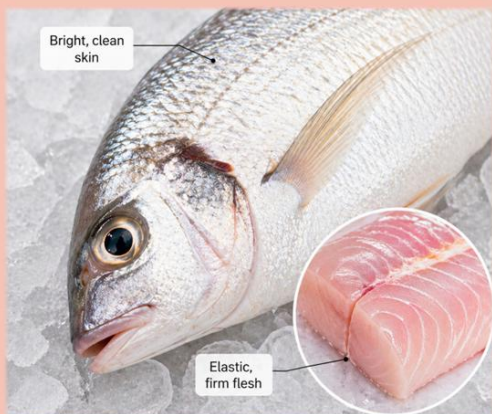


Figure 2. Indicators of Quality and Spoilage in Finfish (adapted from U.S. Food and Drug Administration, “Selecting and Serving Fresh and Frozen Seafood Safely”, 2024).

Safe Handling at Home

Once finfish is brought home, proper storage is key to maintaining quality and preventing foodborne illness. Fresh fish should be stored on the middle shelves of the refrigerator (above raw poultry and meats but below ready-to-eat fruits and vegetables) to avoid cross-contamination. Raw, fresh finfish should be cooked or frozen within 1-2 days. Cooked finfish lasts 3-4 days in the refrigerator (figure 3) (ServSafe, 2019).

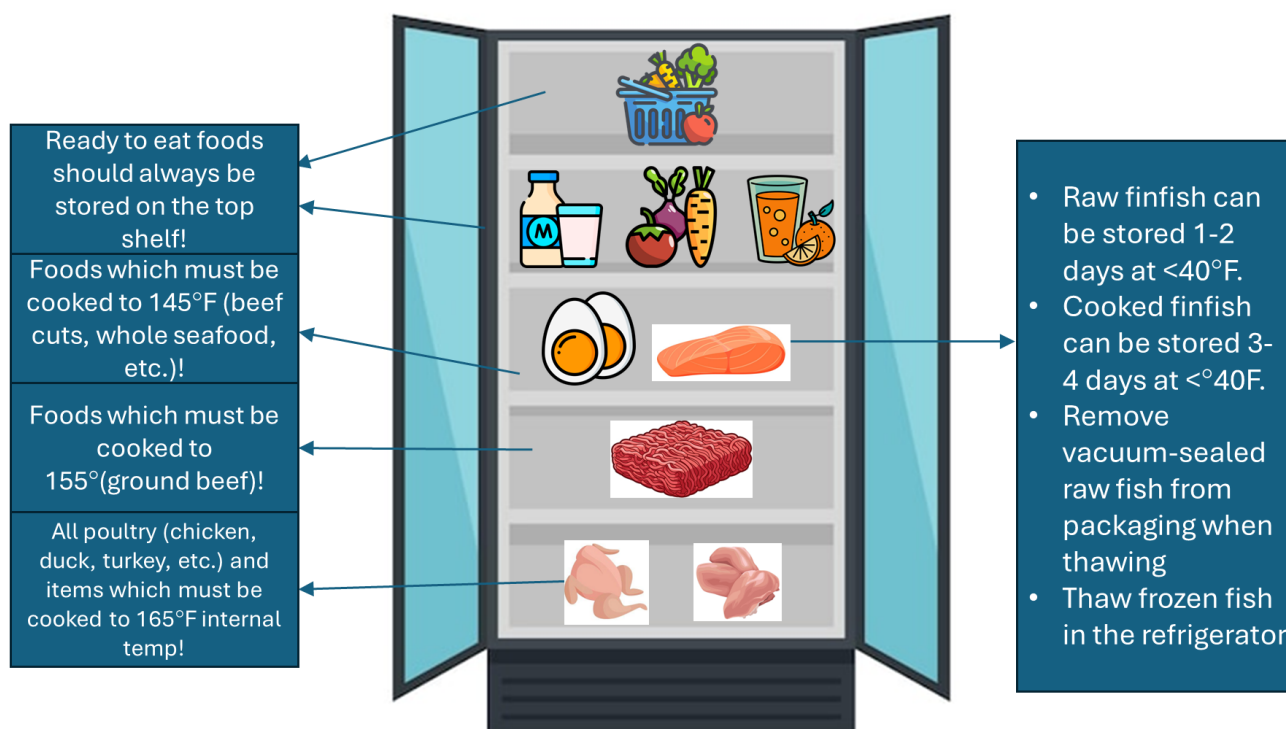


Figure 3. Refrigerator Storage Guide (adapted from ServSafe, 2019).

Finfish can also be safely frozen, provided special instructions are followed. Raw fish fillets should be frozen within 24 hours of purchase. Fish should be patted dry and sealed in air-tight freezer bags to remove air and protect the delicate flesh against freezer burn. Frozen fish can be stored for up to 3 months for the best quality.

Finfish should be removed from vacuum-sealed packaging before thawing and thawed in the refrigerator. Thawing in vacuum packaging can create low-oxygen conditions that allow *Clostridium botulinum* to grow, even under refrigeration. Refrigerator thawing typically takes 12–24 hours. As a faster option, fish can be thawed in cold water by placing it in a leak-proof bag and submerging it in cold tap water, changing the water every 30 minutes. This method typically takes 30–60 minutes (FDA, 2024). It is not recommended to exceed one freeze-thaw cycle due to the significant degradation of finfish flesh (mushy, squishy textures).

Cooking Finfish Safely

Finfish should be cooked to an internal temperature of 145°F to destroy common seafood hazards such as *Anisakis* larvae and *Vibrio* bacteria. Baking, steaming, pan-frying, and air-frying can all reach this temperature when properly performed. Ensuring adequate cooking is especially important for higher-risk groups, including pregnant individuals, adults over 65, young children, and those who are immunocompromised (CDC, 2024). In addition to food safety, some groups (e.g., pregnant women) may need to limit intake due to the potential for heavy metal accumulation in the flesh of larger, higher-order fish species (USDA ARS, 2025).

Finfish are an important part of a healthy, balanced diet (figure 4). Finfish provide essential nutrients, including omega-3 fatty acids (EPA and DHA), high levels of vitamin B₁₂, and minerals such as selenium and iodine (USDA ARS, 2025).

With proper selection, handling, and cooking, consumers can confidently prepare safe, nutritious meals using local Virginia finfish!



**EAT MORE FISH 2024
BLUE CATFISH EDITION**
Tuscan Style
Virginia Wild Blue Catfish

Serves 4-6
Prep time: 30 minutes

ITEM	INGREDIENTS	AMOUNT	PREPARATION
Tuscan Style Blue Catfish Fillets	Fillets	1 to 1 1/2 Lbs.	Cut the fillets in medallions, about 2 oz each.
	Sundried Tomatoes	2 oz	Julienne (slice)
	Garlic	2 cloves	Grate
	Stock (e.g., Vegetable, chicken, clam juice will work)	8-10 oz	
	Heavy Cream	2 oz	
	Parmesan Cheese, Shredded	2 oz	
	Arugula	2 oz	Wash and pat dry with a paper towel.
	Salt (e.g., Kosher, Sea, etc.)	Season to taste	
	Pepper, cracked	Season to taste	
	High quality cooking oil (e.g., Olive, Avocado, etc.)	1-2 Tbsp	
Angel Hair Pasta (As side)	Angel Hair Pasta	1/2 Lb.	Cooked to al dente and reserved.

To cook the fish:

- Preheat a medium size sauté pan over medium high heat.
- Season the fillets with salt and cracked pepper, lightly oil (just a touch on each fillet).
- Add remaining oil to the pan.
- Add the fillets, sear and cook for 2-3 minutes (depending on heat/pan).
- Turn the fillets carefully placing them directly in the same spot to protect the fond/remnants in the pan, cook for an additional 2-3 minutes.
- Remove the pan from the heat and then the fillets from the pan. Reserve fillets on a paper towel lined plate to drain any excess oil.

To make the sauce:

- Return the pan to the heat and add the sundried tomatoes, stir with a wooden spoon for 1 minute, use the wooden spoon to "scrape" any remnants (fond) from the bottom of the pan. This will keep them from burning.
- Add the garlic to the pan and cook to aroma.
- Add stock to the pan to deglaze.
- Turn up the heat to bring to a boil, then reduce heat to simmer. Reduce the liquid by half.
- Add the heavy cream, continue to reduce until sauce begins to thicken and coats the back of a spoon.
- Add 2/3 of parmesan cheese, return the fillets to the pan, and continue to cook for 1-2 minutes, gently stirring to ensure the cheese does not stick to the bottom of the pan.
- Push the fillets and sundried tomatoes to one side of the pan and place the cooked pasta on the other side of the pan to reheat and absorb some sauce.

Assemble

Once the pasta is heated, remove to a serving dish. NOTE --If too much sauce has been absorbed, you may need to add a touch more stock and heavy cream to the pan. Add arugula to the pan and allow it to wilt (less than a minute). Remove from heat, evenly place the fillets on the pasta reserving one for the top. Serve the sauce over the fish and pasta. Top with the last fillet. Sprinkle the remaining parmesan cheese and finish with cracked pepper. **Eat and Enjoy!**

Chef's Notes

- As for Measurements--8 oz of stock equal 1 cup. 2 oz of Heavy Cream equals 1/4 cup. An average container of Shredded Parmesan equals 5 oz. The average container of Arugula equals 5 oz as well.
- The Fond/Remnants are the gooey bits of goodness stuck to the bottom of the pan when you sear something, there is a lot of flavor there as long as you don't burn them.
- Cooking garlic to aroma is just long enough to smell it. Garlic (especially grated) can burn easily so have your deglazing liquid ready.
- Stock and heavy cream reductions can vary depending on your pan and heat source. One way to tell if the sauce is approaching the desired thickness is to watch the bubbles. The bigger the bubbles, the thicker the sauce, but be careful, if you take the reduction too far it can break resulting in a greasy mess.
- Lastly Virginia Wild Blue Catfish (any fish really) is easily overcooked. We cut our fillets to around 1/2 inch thick, so adjust your cooking times accordingly until you reach an internal temperature of 145°F ("65°C).






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Figure 4. Recipe for Pan-Seared, Tuscan Style Blue Catfish (Virginia Agricultural Research and Extension Centers, "Blue Catfish", 2025). Recipes and cooking demonstrations can be found on the [Virginia Seafood Agricultural and Research Extension Center's website](https://www.ares.vaes.vt.edu/ares/virginia-seafood/programs_research/aquaculture/aquaculture-bluecatfish.html) (https://www.ares.vaes.vt.edu/ares/virginia-seafood/programs_research/aquaculture/aquaculture-bluecatfish.html).

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Additional Resources

Blue Catfish Information and Recipes:

https://www.ares.vaes.vt.edu/ares/virginia-seafood/programs_research/aquaculture/aquaculture-bluecatfish.html

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