



Understanding Consumer Seafood Preferences for Midwestern Aquaculture Producers

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**North Central Regional
Aquaculture Center**

Marketing Insights for Midwestern Food Fish Producers Executive Summary

The aquaculture industry may have an opportunity to increase Midwest consumption of fish such as rainbow trout, lake trout, and Great Lakes whitefish raised in the region. These species were consumed by 15% to 26% of U.S. consumers in 2024, but Midwestern consumption trailed U.S. consumption by 6 to 14 percentage points.

Producers, however, may face headwinds connecting with food fish consumers.

- Midwesterners report lower fish consumption than consumers in other U.S. regions.
- Relatively small shares of U.S. consumers buy fish species commonly raised in the Midwest.
- Most consumers primarily purchase seafood from supermarkets or major retailers, which may be hard markets for smaller producers to access.

To connect with fish buyers and move product, aquaculture producers may want to consider a marketing-forward approach to doing business. Based on the survey conducted for this project and other market research, the following strategies offer ideas for growing a food fish aquaculture business:

Be strategic in how you identify your target customer.

- Look to serve smaller customer segments who are locavores or adventurous eaters.
- Selling at a farmers market may help with developing a list of loyal, frequent customers in some areas.
- Marketing through direct-to-consumer sales channels allows producers to educate shoppers about various fish products and “train” them on preparation methods.

Beyond producing quality fish, producers must empower individuals by educating them on how to buy and prepare fish products.

- Develop marketing messages that educate customers on how to increase at-home seafood consumption and introduce them to fish species raised in the Midwest.
- Providing samples and demonstrating fish handling and preparation practices may incentivize consumers to try new fish species.
- When suggesting preparation methods, focus not only on sharing ideas and inspiration but also suggesting fast and convenient options.
- Recipes used in promotional materials should feature varying preparation methods (e.g., stovetop, oven, grill).
- Continue to educate your customer. Nationally, buyers who frequently prepare seafood at home express interest in more consumer education.

Explore target customer preferences in your region.

- Offering value-added products may save consumers on preparation time and introduce them to different preparation methods.
- Diversifying food fish product offerings with flavorings or sharing ideas for adding flavor to seafood dishes may pique consumers’ interest.

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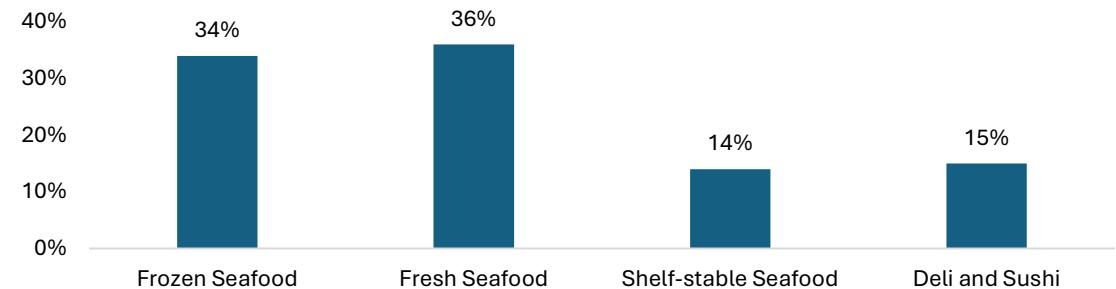
The seafood product category broadly includes fish, shellfish and mollusks in various forms such as fresh, frozen and prepared options.

For the year ending Dec. 29, 2024, total seafood sales in the U.S. reached \$23.4 billion — a 1.2% decline relative to the prior year. Considering unit sales increased by 1%, the slip in dollar sales stemmed from prices paid, not volumes moved.

More than 70% of total seafood dollar sales traced to fresh and frozen products for this time period, though both of their dollar sales retreated from the prior year. Dollar sales for the shelf-stable and the deli including sushi categories grew.

(Circana from FMI, The Power of Seafood 2025)

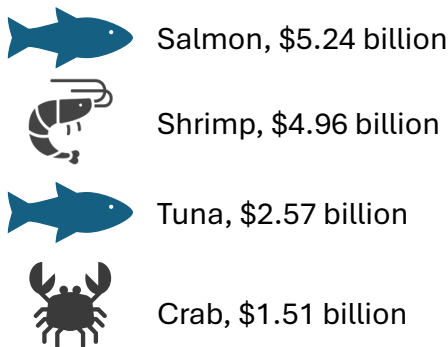
Share of Total Seafood Dollar Sales by Product Form, Year Ending Dec. 29, 2024



(Circana from FMI, The Power of Seafood 2025)

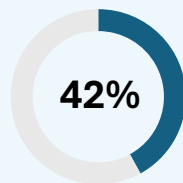
Two fish and two shellfish posted the greatest dollar sales by species for the year ending on Dec. 29, 2024.

Top U.S. Seafood Species, 2024 Dollar Sales



(Circana from FMI, The Power of Seafood 2025)

Cultivate Core Customers



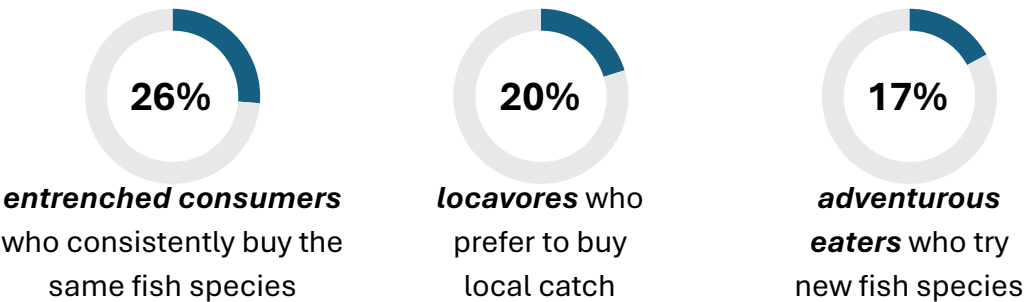
Share of seafood in 2024 bought by 10% of consumers

Although 89% of households purchased seafood in 2024, a segment of “core customers” contributed greatly to total seafood sales. Target these buyers to build repeat business.

(Circana and FMI, The Power of Seafood 2025)

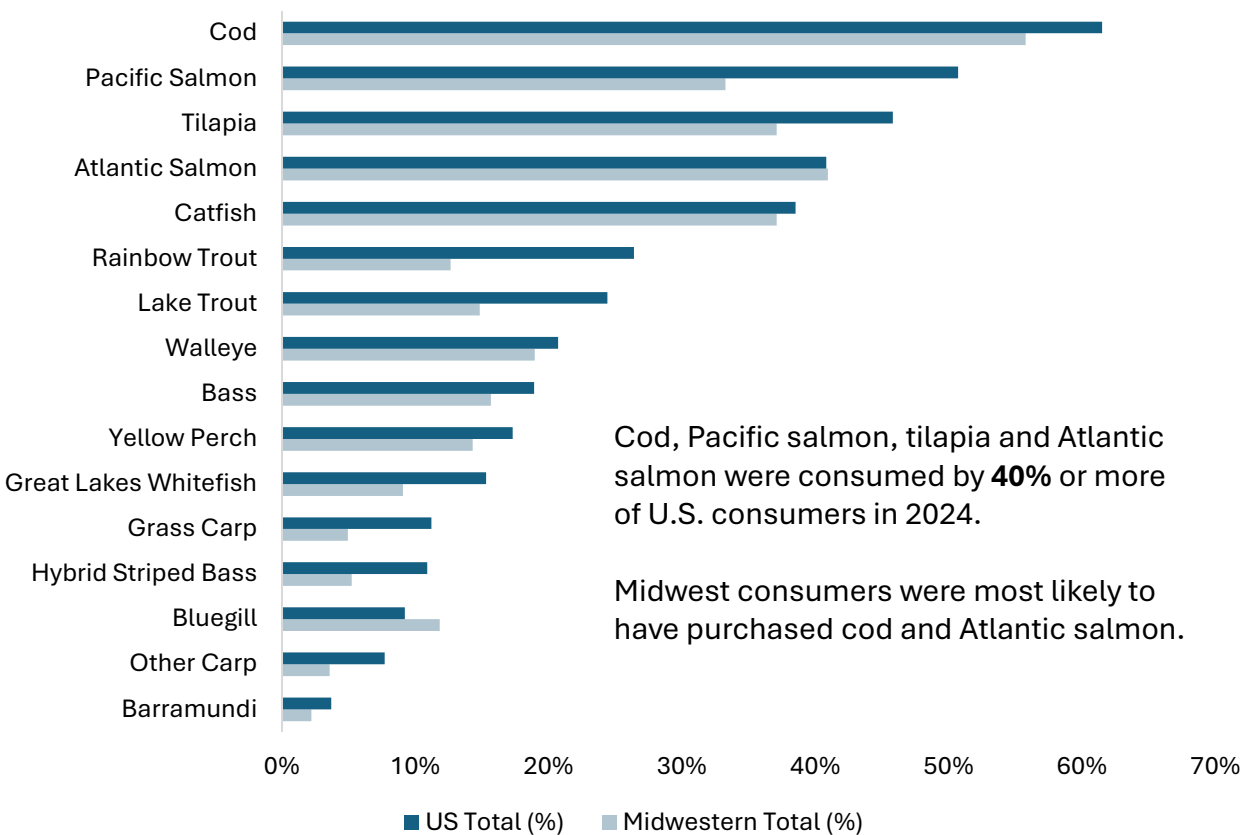
U.S. Consumers Prefer a Few Fish Species

(NCRAC 2025 Consumer Survey)



Half of all consumers purchased one or two fish species to prepare at home in 2024. Many species often raised in the Midwest were not commonly purchased and consumed.

Share of Consumers Who Bought Fish Species to Prepare at Home in 2024



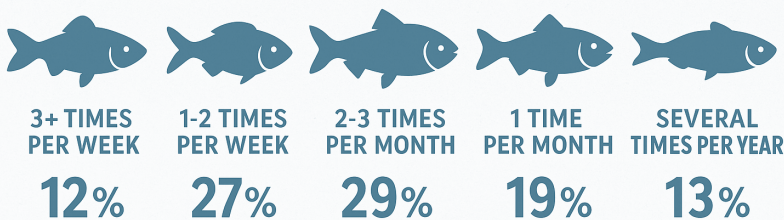
Marketing Insights for Midwestern Food Fish Producers

- Midwestern consumers largely report lower fish consumption rates.
- Look to serve smaller customer segments who are locavores or adventurous eaters.
- The industry may have opportunities to increase Midwest consumption of species such as rainbow trout, lake trout and Great Lakes whitefish that can be raised in the region. These species were consumed by between 15% and 26% of U.S. consumers in 2024, but Midwestern consumption trailed U.S. consumption by 6 to 14 percentage points.

U.S. Consumers' Seafood Purchasing Habits for At-Home Preparation

FREQUENCY OF SEAFOOD PURCHASE

39% of Consumers Purchase Seafood Weekly



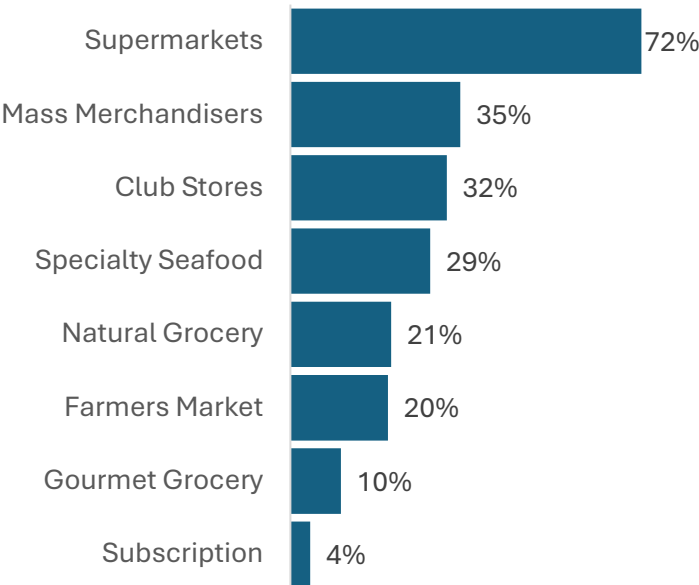
(NCRAC 2025 Consumer Survey)

FMI's *The Power of Seafood* 2025 research found **minorities, men, individuals with higher household incomes** and those with more **formal education** tend to **buy seafood more frequently**.



Supermarkets
sold to **72%** of
consumers

20% of
consumers
purchased from
farmers markets



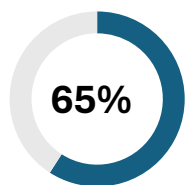
(NCRAC 2025 Consumer Survey)

Marketing Insights for Midwestern Food Fish Producers

- Headwinds that affect producers connecting with food fish consumers include:
 - Relatively small shares of the U.S. population consume commonly raised Midwestern species.
 - Most consumers primarily purchase seafood from supermarkets or major retailers, which may be hard markets for smaller producers to access.
- Selling at a farmers market might be a way to develop a list of loyal, frequent customers.
- Develop marketing messages that educate customers on how to increase at-home seafood consumption and introduce them to fish species raised in the Midwest.

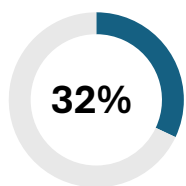
Preparation as a Seafood Purchase Motivation

For some consumers, decisions about fish products to buy and eat at home hinge on their food preparation skills and confidence and the time required to prepare a meal.



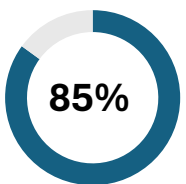
65% of consumers make preparation-minded considerations when purchasing fish species to prepare at home — by buying species they can confidently cook and/or choosing species that fit with a preferred cooking method

(NCRAC 2025 Consumer Survey)



32% of consumers buy fish species that are quick to prepare

(NCRAC 2025 Consumer Survey)



85% of consumers who purchased seafood to consume at home in 2024 also said they ate seafood in a restaurant that year; 15% exclusively prepared seafood at home

(NCRAC 2025 Consumer Survey)

Knowledge is Power

Of frequent seafood consumers surveyed by FMI, **48% said they completely or mostly agreed they were hesitant to buy seafood because they lacked knowledge about how to prepare these products;** 43% of all responding consumers felt this way. Frequent seafood consumers are those who eat seafood at least twice a week at any location. All consumers include those who do and don't eat seafood.

(FMI, The Power of Seafood 2025)



Marketing Insights for Midwestern Food Fish Producers

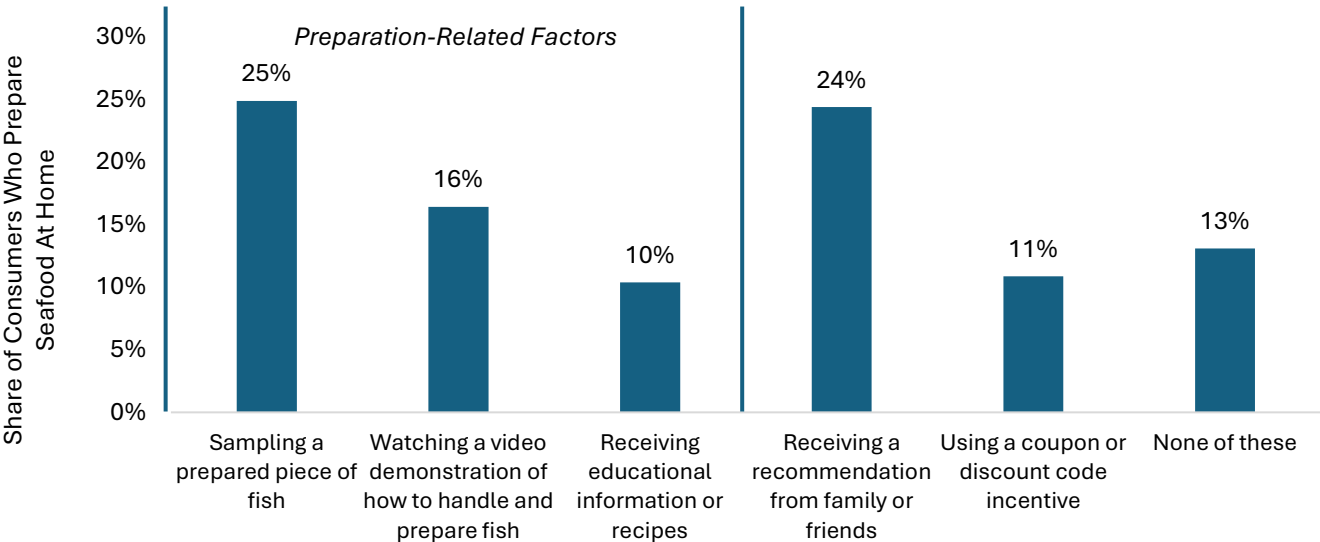
- Beyond producing quality fish, producers must empower individuals throughout their market channels (e.g., grocery stores, restaurants, end consumers) about how to prepare fish products.
- Even educating consumers who already purchase seafood often may open new food fish sales opportunities.
- When suggesting preparation methods, focus not only on sharing ideas and inspiration but also suggesting fast and convenient options.

Show-and-Tell: Preparation Assistance for Seafood Consumers

More than half of consumers surveyed said a preparation-related factor would persuade them to try a new fish species. Topping the list was sampling prepared fish, but watching a video demonstration would also have value. Aside from preparation considerations, a family or friend recommendation would also encourage some to try new species.

(NCRAC 2025 Consumer Survey)

Top Factors That Would Persuade Consumers to Try New Fish Species



(NCRAC 2025 Consumer Survey)

Consumers Seek Preparation Help from Seafood Counters

FMI research identified the top three forms of preparation assistance consumers would like to have available from the seafood counters where they shop.

(FMI The Power of Seafood 2025)



Cooking directions
or instructions



Meal ideas



Recipes

Marketing Insights for Midwestern Food Fish Producers

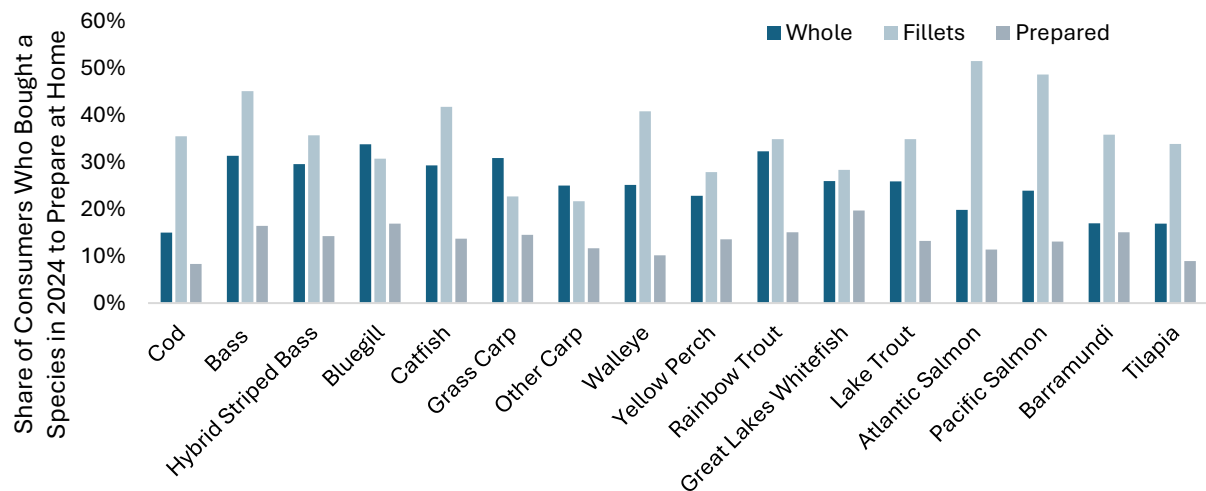
- Providing samples and demonstrating fish handling and preparation practices may incentivize consumers to try new fish species.
- Forming strong relationships with key contacts in your distribution channels can equip frontline sales staff and shoppers with fish preparation recommendations.
- Selling through direct-to-consumer sales channels would allow for “training” shoppers about food preparation methods.

Making Seafood Preparation Accessible

Consumers Outsource Some Seafood Preparation

Most often, consumers buy frozen or fresh fish, which requires some preparation before mealtime. In 2024, at least 15% of consumers who bought Great Lakes whitefish, bluegill, bass, grass carp, rainbow trout and barramundi chose prepared options (e.g., breaded, marinated) if buying fresh. *(NCRAC 2025 Consumer Survey)*

Forms of Fresh Fish Products Purchased by Species



(NCRAC 2025 Consumer Survey)

Added Flavor, Added Appeal

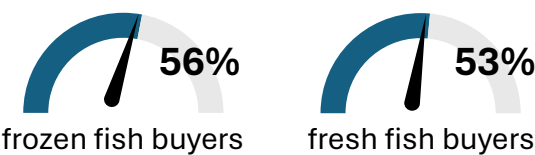
How a product tastes can make or break the experience for a consumer.

Amping up the flavor can differentiate the eating experience, even if consumers continue to choose the fish and seafood species they have purchased previously.

Top Flavors in Fish and Seafood Launches



Consumers Prefer to Buy Fillets



Preferred Preparation Methods

Two-thirds of consumers identified a **stovetop, grill or oven** as their preferred preparation method.

(FMI The Power of Seafood 2025)

Marketing Insights for Midwestern Food Fish Producers

- Offering value-added products may save consumers on preparation time and introduce them to different preparation methods.
- Recipes used in promotional materials should feature varying preparation methods (e.g., stovetop, oven, grill).
- Diversifying food fish product offerings with flavorings or at least sharing ideas for adding flavor to seafood dishes may pique consumers' interest.

Seafood Attributes Sought by Consumers

(NCRAC 2025 Consumer Survey)

Consumer Seafood Preferences

Eight out of 10 consumers viewed safe, healthy and price as important attributes when choosing seafood to eat at home.

Midwestern consumers were more likely indifferent to seafood's source; higher shares of Midwestern consumers were indifferent to local, wild, farm-raised and traceable attributes. Midwesterners were slightly more price sensitive.

FMI's *The Power of Seafood 2025* asked consumers to rank eight factors by importance when shopping for seafood. **Product quality had the highest ranking followed by taste or flavor and total price.**

Farm-Raised or Wild-Caught

Consumers have split preferences, but overall, they view **farm-raised or wild-caught as less important** than other factors when selecting seafood.

Fresh or Frozen

An equal share of consumers purchased fresh and frozen fish in 2024. Fewer consumers purchased live (11%), smoked (10%) or shelf-stable (4%) products.



NCRAC 2025 Consumer Survey

33% of consumers are “trusty buyers” who seek responsibly sourced fish

Marketing Insights for Midwestern Food Fish Producers

- Buying farmed fish isn't a major deterrent for consumers. FMI's 2025 Power of Seafood report found 31% of seafood consumers were unsure what aquaculture means. Further, between 34% and 45% of seafood consumers said they have only a partial understanding of wild-caught, farm-raised, aquaculture and indoor fish production.
- Consumers commonly identify safety, freshness and no added hormones as important attributes when choosing fish to purchase and prepare at home. Review your management practices, and prioritize and advertise on-farm activities that align with consumer preferences.

Seafood Consumer Insights Beyond Fish

(NCRAC 2025 Consumer Survey)

Niche Seafood Markets Exist for Seafood Specialties

One in five responding consumers reported purchasing crayfish or a mollusk (e.g., mussels, oysters, clams or scallops) to prepare at home in 2024.

Shellfish are commonly sold in three forms: whole, tail-on or peeled. Consumers buying both fresh and frozen tended to purchase two product forms.

Freshwater prawn were purchased by 20% of all consumers. Prawn consumers purchased fresh and frozen in similar proportions. They were less likely to buy peeled prawn.

Shrimp are the most consumed non-fish seafood species suitable for Midwestern aquaculture production.

A third of consumers who purchased shrimp in 2024 to prepare at home were unsure if the shrimp they bought were wild-caught or farm-raised.



73% of consumers bought frozen shellfish, 56% purchased fresh, and 11% bought live.

7% bought live mollusks



Consumers preferred to buy whole crayfish



Share of shrimp consumers who purchase frozen, tail-on shrimp

Share of shrimp consumers who purchase frozen peeled shrimp



Marketing Insights for Midwestern Food Fish Producers

- Selling a well-packaged frozen fillet could be a way to manage fish inventories.
- While educating customers about your business, consider highlighting how your management practices create a safe, healthy and fresh product.
- Most seafood consumers view price as an important purchase consideration. Because raising seafood in the U.S. is more expensive than importing, try to avoid competing on price. Focus on talking about your product's quality. Carefully track your production costs, and identify niche markets that support you charging a higher price to recoup your management investment and on-farm expenses.

Data Definitions Used in This Report

Midwestern consumers: people who live in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Commonly raised Midwestern species: rainbow trout, lake trout, walleye, bass (smallmouth and largemouth), yellow perch, Great Lakes whitefish, grass carp, hybrid striped bass, bluegill and other carp. Note, catfish are also present in the Midwest region, but domestic production concentrates in the warmer southern states.

Frequent seafood consumers: The 32% of U.S. consumers who eat seafood at least twice per week (*FMI, The Power of Seafood 2025*).

Additional Data Insights

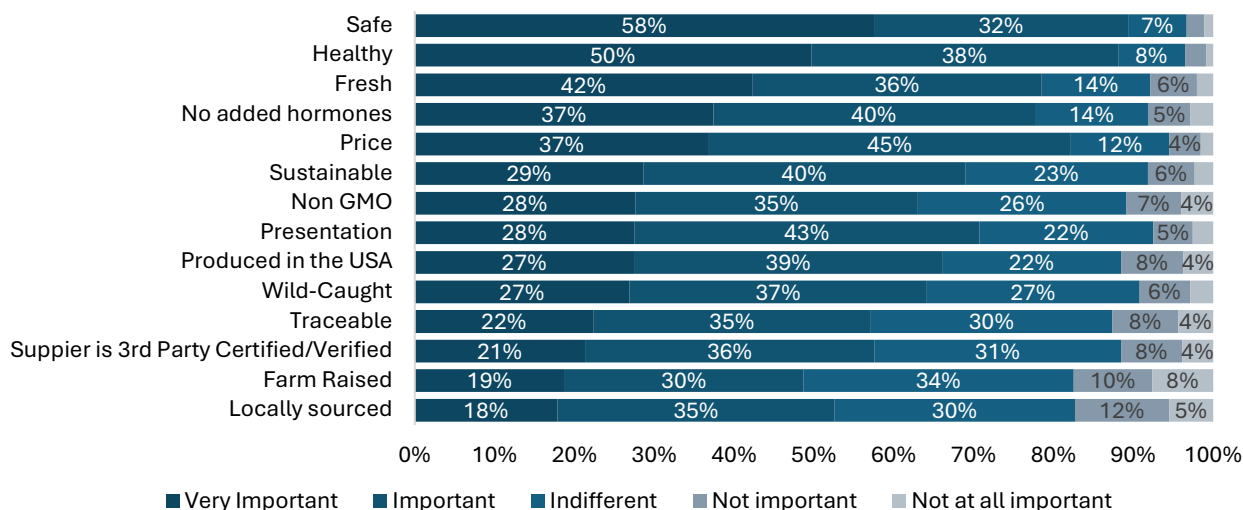
Purchased Fish Species (pages 4 and 5): When asked to identify which of 16 fish species they purchased to prepare at home, participating U.S. consumers said the following: 25% reported one species, 25% reported two species, 18% reported three species, 14% reported four species, 7% reported five species, and 12% reported six or more species (*NCRAC 2025 Consumer Survey*). Midwesterners reported eating fewer species at home: 3.2 compared with a U.S. average of 4.0 (*NCRAC 2025 Consumer Survey*).

The most consumed food fish species did not change from 2020 to 2025 (*NCRAC 2025 Consumer Survey* and *2020 Consumer survey*). In both years, these surveys covered a limited number of species. Circana (sales data from *FMI's The Power of Seafood 2025 report*) examined all seafood categories. Salmon species appeared at the top of both lists.

Market Channels (page 6): Farmers markets were a more common seafood market channel for southern and northeastern consumers (*NCRAC 2025 Consumer Survey*).

Fresh vs. Frozen (page 9): Consumers have similar preferences for fresh and frozen seafood (*NCRAC 2025 Consumer Survey* and *Circana sales data from FMI's The Power of Seafood 2025*).

Seafood Attributes (page 9): Detailed U.S. consumer attribute preferences are as follows (*NCRAC 2025 Consumer Survey*).



Funding Acknowledgement

This project, Advancing Aquaculture in the Midwestern Region, was supported by the North Central Regional Aquaculture Center (NCRAC), which is one of five regional aquaculture centers established by Congress and administered by the USDA National Institute of Food and Agriculture. NCRAC serves the 12 states in the north central region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin.

You can find other NCRAC-funded project reports at <https://www.ncrac.org/publications>.

Source Materials

This report cites market intelligence from several sources. The following descriptions summarize these sources and the methods they used to collect market data.

2025 NCRAC Consumer Survey

The NCRAC-funded Advancing Aquaculture in the Midwestern Region project made this survey work possible. The 2025 NCRAC Consumer Survey explored consumer purchasing habits for common fish species but focused on gathering consumer sentiment toward aquaculture species suitable for production in the north central region. As such, the 2025 NCRAC survey did not collect consumer sentiment about all fish or seafood species. For example, it omitted sushi, lobster and crab.

The 2025 survey intended to replicate a national consumer survey conducted in 2020. (See the 2020 project's description on the following page.) The 2025 effort made subtle modifications to the 2020 survey; for example, willingness to pay prices were adjusted for inflation. Access the 2025 willingness-to-pay analysis at <https://extension.missouri.edu/programs/aquaculture-fisheries/publications>.

To implement the 2025 survey, the project team engaged Qualtrics to recruit 1,500 U.S. adults who purchased seafood to prepare at home in 2024. The survey collected 1,420 usable responses from June 13-30, 2025.

The composition of recruited respondents matched nationally representative demographics for gender, age, race and ethnicity. Because this project intended to offer market information to aquaculture producers operating within NCRAC's footprint, the project team adjusted the survey's response quotas by region. For a nationally representative survey, the geographic composition would have been Northeast, 17%; Midwest, 21%; West, 24%; and South, 38%. The adjusted regional composition was as follows: Northeast, 23%; Midwest, 27%; South, 26%; and West, 24%.

The project team removed responses that failed to pass a speed check (i.e., answered too quickly) or were submitted by inattentive respondents (i.e., consistently chose all response options or exhibited other patterns that suggested insincere responses).

Source Materials Continued

FMI, The Power of Seafood 2025

This report features several findings from The Power of Seafood 2025, a research report published by FMI-The Food Industry Association.

The Power of Seafood report includes consumer survey findings and seafood sales data tracked by Circana. For the 2025 report, FMI surveyed a nationally representative sample of consumers in early November 2024. The online survey collected responses from 2,050 adult consumers who described themselves as U.S. grocery shoppers. It asked consumers about 2024 habits and their seafood preferences.

Published annually, The Power of Seafood reports are available to FMI members, or other individuals may purchase copies. To download your own copy, go to fmi.org/forms/store/ProductFormPublic/power-of-seafood-2025. Learn more about FMI and its research products at www.fmi.org.

2020 Consumer Seafood Survey

In 2020, a national consumer survey launched to assess consumer preferences for seafood attributes and willingness to pay for fresh or frozen fish. The 2020 survey instrument provided the framework for the 2025 NCRAC consumer survey. These articles summarize the 2020 survey results: choicesmagazine.org/choices-magazine/theme-articles/the-economics-of-us-aquaculture/go-fish-us-seafood-consumers-seek-freshness-information-safety-and-health-benefits and sciencedirect.com/science/article/abs/pii/S0044848622012145.

Willingness-to-pay analysis using the 2020 survey results is available at cambridge.org/core/journals/agricultural-and-resource-economics-review/article/are-us-consumers-willing-to-pay-more-by-the-lake-an-analysis-of-preferences-for-great-lakes-region-fish/9F430E15897948E15D13D608D9B08583.

Innova Market Insights

A market research company, Innova Market Insights builds knowledge about food and beverage market trends. This publication references an Innova Market Insights post from January 2025 about flavorings found in seafood product launches: innovamarketinsights.com/trends/global-seafood-industry-trends.

Summary Graphics

On several occasions, the authors used ChatGPT to create infographics used in this report. Some icons used as visuals in this report originated from Adobe Stock and the Noun Project.