CHOICES

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Theme Overview: The Economics of U.S. Aquaculture

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Though the global seafood market has increased dramatically in size over the past few decades, U.S. aquaculture operations meet only a relatively small portion of this burgeoning demand. Globally, about half of all seafood is now produced by aquaculture, making it a key source of income and food security for many countries. Aquaculture's contribution to U.S. domestic seafood production has increased far less rapidly, however, and currently sits at about 17% in terms of value and less than 10% in terms of weight as a share of total U.S. fish production (including mollusks and crustaceans). U.S. seafood imports have increased more rapidly than domestic aquaculture production in recent decades. Concerns about lackluster growth in domestic production and increasing import dependence culminated in a 2020 presidential executive order encouraging growth in U.S. aquaculture production.

This *Choices* theme covers ongoing social and economic issues in U.S. aquaculture. The authors are part of the Great Lakes Aquaculture Collaborative (GLAC), a National Oceanic and Atmospheric Administration and Sea Grant–funded project designed to disseminate relevant, science-based information that supports an environmentally and economically sustainable aquaculture industry in the Great Lakes region. As in the rest of the country, aquaculture producers in the Great Lakes region have struggled to develop at a pace that matches domestic seafood demand growth. A key objective for GLAC is to identify significant barriers to growth for a sustainable domestic aquaculture industry. Research by GLAC scholars will be of interest to stakeholders throughout the United States, and most of the papers examine social and economic issues in aquaculture through a national lens.

Concerns about the U.S. aquaculture industry are often motivated by questions about producing fish for food, but a large share of aquaculture production is not intended for food. Seilheimer, Wiermaa, and Jescovitch review distinctions between forms of wild-catch, aquaculture, and hatchery production. This article provides definitional clarity critical for understanding nuances in U.S. fish production.

U.S. seafood demand is dynamic, increasing steadily with population but shifting from tuna and cod to shrimp

Articles in this Theme:

and salmon, among other species, which the United States largely imports and to which aquaculture contributes substantially. Abaidoo, Melstrom and Malone compare growth in U.S. seafood consumption and aquaculture production to the rest of the world. Using production statistics dating back to the 1950s, their article documents the slow development of the U.S. aquaculture industry relative to the rapid expansion of U.S. imports.

Why the slowed growth? Some prior studies have indicated that regulatory burdens might play a critical role in hindering industry expansion. Indeed, industrialization and globalization have led to a mix of regulations, government advisories, and nongovernmental organization (NGO) programs focused on addressing environmental sustainability, animal welfare, food safety, and food traceability. Quagrainie and Shambach describe trends in production standards and certification programs used in seafood markets and aquaculture. Their article focuses on the rise of product labeling such as sustainability labels and organic certifications as a method for producers to educate and attract consumers.

What are the impacts of some of these labeling initiatives? Using data from a recent survey of consumers, Valle de Souza et al. describe consumer preferences for seafood in the United States. In addition to the importance of various product labels, their research provides insights into consumer preferences for different fish species, food-at-home versus food-away-from-home, and frozen versus fresh fillets. Although labeling is generally important to consumers, they find that consumers believed “wild-caught” and “farm-raised” to be the least important labels, behind those related to traceability, GMOs, and safety.

Complementing Valle de Souza et al.’s consumer research, Carlton, Shambach, and Hartenstine interview producers about the challenges of marketing farm-raised fish. Those interviewed describe the difficulties producers confront regarding pricing and regulations, which they found to be the most consistent challenges.

Finally, Staples et al. examine the U.S. aquaculture regulatory landscape by counting the number of restrictive words in federal and state laws linked to aquaculture. Their findings imply a need for nuance in understanding the role of regulatory burdens in aquaculture supply chains. This does not indicate that regulations are unimportant to the development of the aquaculture industry but rather that concerns about “over-burdensome” regulations are likely to require a deeper understanding of the costs and benefits to government intervention.

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