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New Research: Local Seafood Networks Critical to Broader Food System Resilience

International study led by researchers at the University of Maine and University of Guelph finds phenomenon of seafood “relocalization” following systemic shocks

ORONO, Maine and GUELPH, Ontario (April 31, 2021) – In a new peer-reviewed study published in *Frontiers In Sustainable Food Systems*, research led by the University of Maine shows that alternative seafood networks (ASNs) in the US and Canada, which are often regarded as a niche segment of the seafood economy, experienced unprecedented growth during the early months of the COVID-19 pandemic while the broader seafood system faltered. The researchers argue that the spike in demand is reflective of a temporary “relocalization” phenomenon that appears to occur during periods of systemic shock, highlighting the need for greater functional diversity in supply chains. The study also lays out potential policy changes and opportunities for investment to strengthen local and regional seafood networks.

The study was led by Joshua Stoll, Assistant Professor of Marine Policy at the University of Maine School of Marine Sciences; Philip Loring, Associate Professor and Arrell Chair in Food, Policy and Society at the University of Guelph; Hannah Harrison, Postdoctoral Fellow at the University of Guelph; and Emily De Sousa, Graduate Student at the University of Guelph, with contributions from colleagues at Haverford College in Pennsylvania, the University of Vermont, the North American Marine Alliance, and eleven community supported fisheries from across the US and Canada.

“This research shows that alternative seafood networks help to make seafood supply chains more diverse,” said Joshua Stoll. “In doing so, it brings attention to the critical role that local seafood systems play in supporting resilient fisheries in times of crisis.”

“The pandemic unmasked numerous vulnerabilities in the long and complex supply chains that currently dominate our food systems. But here, we see an example of local entrepreneurs adapting on the fly, and that is critical to our food security,” said Phillip Loring.

Seafood is a highly perishable commodity that demands utmost speed and efficiency in distribution and cannot afford even temporary disruptions. Alternative seafood networks distribute seafood through local and direct marketing, conducted by the very people who caught it, as opposed to the long and complex supply chains of their global counterparts. According to the study, this physical and social “connectedness” may help to insulate local and regional seafood systems from the deadlock caused by systemic global shocks that disrupts the broader seafood trade.

Researchers drew their conclusions from four lines of quantitative and qualitative evidence:

national Google search term data, website analytics data from ASN, SafeGraph foot traffic data for more than 3,000 fish and seafood markets, and in-depth interviews with practitioners from 16 ASNs across the US and Canada.

Funding for the study came from the Oak Foundation, the School of Marine Sciences at the University of Maine, the Social Sciences and Humanities Research Council of Canada, and the COVID-19 Rapid Research Fund from the Gund Institute for Environment at the University of Vermont.

Key Takeaways

- The globalization of seafood has made food systems more vulnerable to such systemic shocks, which can have devastating impacts on those who are dependent on seafood for sustenance and employment.
- Data suggests a seafood “relocalization” phenomenon occurs during periods of systemic shocks, and that this inverse, yet complementary relationship between global and local seafood systems contributes to the resilience of regional food systems and the global seafood trade.
- Policy changes and greater investments in data collection and infrastructure are needed to support ASN development, increase functional diversity in supply chains and bolster the resilience and sustainability of regional food systems and the global seafood trade.

Access the full study: <https://www.frontiersin.org/articles/10.3389/fsufs.2021.614368/full>.

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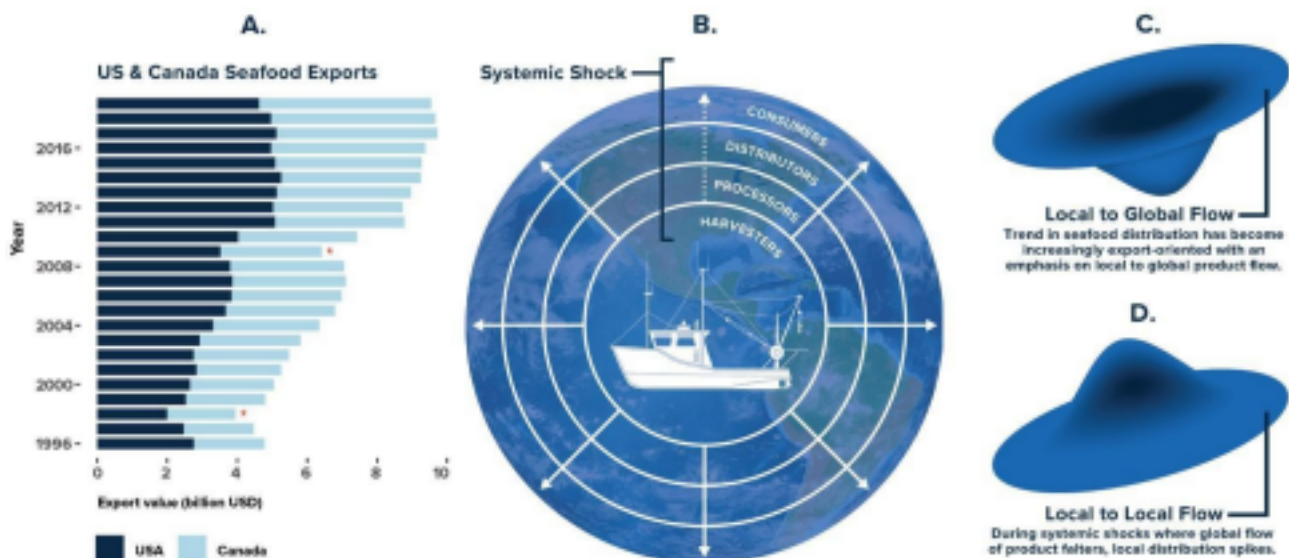


Figure 1 (A) Fisheries in the United States and Canada have become increasingly trade-oriented, but in the last 25 years, multiple systemic shocks have caused global trade to drop sharply, including during the ongoing COVID-19 pandemic (United Nations, 2020). Asterisks correspond to global recessions. (B) Systemic shocks impact all levels of the food system, from producers to consumers, and can lead to "deadlock" in the system. (C) Globalization in the seafood system leads to a local-to-global pattern where product is distributed out and away from the places where it is caught, creating a void of seafood. (D) During the early months of COVID-19 pandemic, however, global seafood supply chains faltered, leading to greater dependence on local food systems and a surge or "bump" in local and direct distribution.

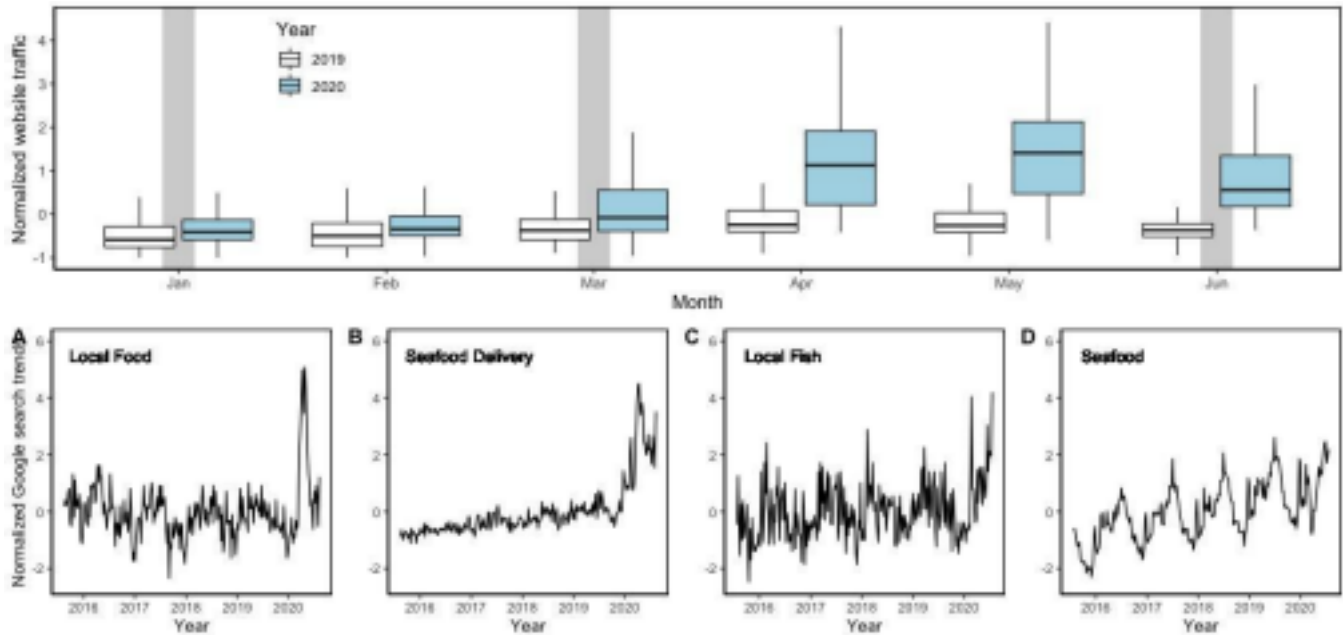


Figure 2 Figure 2. (Top) Google Analytics web traffic data for select alternative seafood networks (n=8). Asterisks denote a statistical difference between years. (Bottom) Google search trends for example phrases related to local food systems and direct producer-to-consumer sales White et al. (2020) similarly describe an increase in web searches for the term "seafood recipes" (A-C). Note that a similar pattern does not exist for the more general term "seafood" (D).



Figure 3 The plant crew of Sitka Salmon Shares, one of several community supported fisheries which co-authored the study with researchers from the University of Maine and the University of Guelph. Photo Credit: Sitka Salmon Shares