TRANSFORM BOTTOM TRAWLING

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The Impact of Bottom Trawling on Food Security, Sovereignty and Nutrition

Rio Grande do Sul, Brazil

Authored by Anna Schuhbauer and U. Rashid Sumaila

This case-study is part of the wider Transform Bottom Trawling Coalition research highlighting the global impact of bottom trawling on food security.

Introduction

Rio Grande do Sul (RS) is Brazil's southernmost coastal state, with long surf-zone beaches and the Patos Lagoon estuary supporting dense artisanal fisheries and coastal food systems. Interviews emphasize that local diets depend on demersal food fish such as pescadinha (weakfish), corvina (croaker), maria-mole (stripped weakfish), and castanha (Argentine croaker), with shrimp and corvina eaten seasonally. These species are valued for year-round availability and are caught using small-scale gears inside the lagoon and along the nearshore coast. Many communities along the RS coast rely on inshore fishing for food and income, and gillnet fisheries and shrimp fyke nets in Patos Lagoon are central to local supply.

Bottom trawling has long targeted shrimp and demersal fish on the RS coastal shelf. In 2018, RS passed the State Policy for Sustainable Fisheries (Law 15.223/2018), which prohibited motorized bottom trawling within 12 nautical miles along the state coast. The law was justified on ecological grounds, citing degradation of a coastal hotspot used for feeding and spawning of fish and megafauna, and was promoted by local small-scale fishers to rebuild productivity. The policy increased conflict among fishing sectors and triggered legal challenges, particularly from the neighboring state of Santa Catarina, but the Supreme Court ultimately upheld the ban in a 9-1 decision in June 2023. Since the ban, both interviewees and local reporting describe increased fish availability and diversity in RS coastal waters and Patos Lagoon, linking ecological recovery to improved local food access.

Key Context

- 2018 state law bans motorized bottom trawling within 12 nm; the Supreme Court upheld the ban in 2023.
- Pre-ban trawler encroachment into nearshore waters drove conflict with SSF
- Patos Lagoon and surf-zone fisheries supply key local food fish and seasonal shrimp.

- Industry says the ban hurts shrimp revenues and jobs, highlighting ongoing conflict.
- Fishers (both SSF and bottom trawlers) report larger and more diverse demersal fish catches after the ban in and outside the 12 nm.

Key Informant Interviews

To deepen understanding of these impacts, three interviews were conducted with key stakeholders who both have worked with local fishers in Rio Grande do Sul and are very familiar with fisher (both SSF and industrial) perceptions from before and after the trawl ban:

- Interview 1: Staff member at Oceana Brazil
- Interview 2: Master student at the University of British Columbia

The interviews focused on research questions regarding (1) negative competition; (2) participation in trawling; (3) nutritional impacts;, and (4) prevailing narratives.

Results Based on Interviews

1. Negative competition and impact on small-scale fisheries

Spatial conflict is the dominant issue described by interviewees. Prior to the ban, trawlers routinely operated inside nearshore zones reserved for small-scale fishers, including within 3 nm, despite formal rules, and pair trawlers followed demersal schools into inshore waters. Interviewees describe chronic non-compliance and enforcement loopholes even after vessel-monitoring requirements were introduced. Small-scale trawling within the estuary has also occurred despite long-standing restrictions, adding pressure on shrimp and demersal species used for local food.

Scientific background sources describe the RS coastal shelf as a biologically productive system and an ecological hotspot for feeding and spawning, and note that trawling has contributed to habitat degradation and overfishing in these shallow waters. Interviewees reported that after the trawl ban, other fisheries improved and women re-entered processing and pre- and post-harvest activities, indicating that the ban reduced competition and supported broader food-system livelihoods.

2. Participating in trawling and food security

Pollock trawling supplies national seafood markets, including institutional buyers such as school meal programs, and contributes to overall U.S. seafood availability. Local benefits in Western Alaska are primarily mediated through the Community Development Quota (CDQ) program, which allocates a share of groundfish quotas (including pollock) to regional CDQ groups. These benefits are mostly indirect, realized through revenues, employment, and community investments rather than direct provisioning of fish to Yukon–Kuskokwim households. Interviewees noted that CDQ governance and scale concentrate decisions at regional or corporate levels rather than at the village level, limiting local control over harvesting, processing, and distribution. Specific data on village-level ownership or crew participation were not reported.

Interviewees emphasized that CDQ-related income can alleviate some economic pressure but does not replace subsistence salmon harvests or restore local control over food systems. As a result, participation as structured under CDQ does not resolve food insecurity driven by salmon declines and may undermine food sovereignty by shifting decision-making away from local communities. Interviewees stated that federal marine fisheries management does not explicitly recognize food security or subsistence rights as primary objectives, and that state policy prioritizes subsistence in principle but allows commercial openings where possible. Management decisions were characterized as emphasizing maximum sustainable yield and short-term decision cycles rather than Indigenous knowledge and long-term food security.

3. Nutritional impacts and consumers

Local protein supply in RS is anchored in inshore fisheries and the Patos Lagoon system, with pescadinha, maria-mole, castanha, and corvina identified as key food species, and shrimp consumed seasonally. Interviewees reported that fish size and diversity increased after the trawl ban and that access to fish improved for local communities, contributing to food security through greater availability and stability of supply. A local news report similarly notes that artisanal and industrial fishers observed increased volume and variety of fish in Patos Lagoon and along the RS coast after the ban, linking the change to the 2018 prohibition on motorized trawling.

At the same time, interviewees also highlighted that the ban reduced shrimp availability in the market as affected trawlers specialized in red shrimp, underscoring a trade-off between local food fish recovery and shrimp-oriented trawl production.

4. Narratives and policy framing

Industry narratives, represented by the Union of Shipowners and Fishing Industries of Itajaí and Region in Brazil (SINDIPI) statement, frame the RS trawl ban as economically damaging, emphasizing losses in shrimp revenue, employment, and national food supply. SINDIPI argues that the RS shelf is well suited to demersal trawling due to high productivity driven by River Plate discharge and a sandy, muddy seabed, and states that many vessels depended on shrimp for up to 70% of annual revenue. The union had pursued legal challenges and supports the federal Plan for Sustainable Resumption of Trawling (March 2021), arguing that management measures can deliver sustainability, jobs, and food security without a ban.

Counter-narratives emphasize ecological recovery and local food systems. Scientific authors from the Federal University of Rio Grande argue that RS coastal waters are an ecological hotspot degraded by overfishing and that bottom trawling should not be permitted within 12 nm. They highlight the 2018 state policy as a fisher-led effort to restore productivity and food-system resilience. Interviews reinforce this perspective, describing increased catches for gillnetters and broader improvements in local fisheries after the ban. The Supreme Court decision in June 2023, and the sustained involvement of NGOs such as Oceana, further indicate that the ban has strong legal and societal support even as conflicts with the Santa Catarina industrial sector persist.

Conclusion

The RS case shows how bottom trawling intersects with food security primarily through spatial competition, ecosystem degradation, and conflicts over who controls nearshore resources. Local diets and livelihoods rely on inshore demersal fish and estuarine fisheries in Patos Lagoon, and interviewees report that the 2018 trawl ban improved fish size, diversity, and availability for local consumption. At the same time, shrimp trawl operators lost access to red shrimp grounds and argue that the ban undermines jobs and revenue. The evidence points to a net food-security benefit for local communities from the trawl restriction, alongside concentrated economic losses for the shrimp trawl sector. In addition, interviewees highlighted that they have spoken with bottom trawling fishers who target demersal fish outside the 12 nm who now report higher catches and larger size fish.

Priority actions emerging from the evidence include:

1. Maintaining the 12 nm trawl ban,
2. Strengthening monitoring of inshore compliance,
3. Pursuing collaborative governance across states to address shared stocks and reduce conflict,
4. Transition support for trawl-dependent operators and workers to find alternative employment, while protecting the artisanal food system that underpins local nutrition security in RS.

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Anna Schuhbauer
Scientific Consulting
acschuhbauer@gmail.com

U. Rashid Sumaila
Fisheries Economic Research Unit
School of Public Policy and Global Affairs
The University of British Columbia
r.sumaila@oceans.ubc.ca

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