

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

Rio Grande do Sul, Brazil

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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

Interviews indicate that bottom trawl catch before the 12nm trawl ban in RS provided employment and port labor opportunities, but its direct contribution to local diets appears limited compared to artisanal and gillnet fisheries. Interviewees noted that trawlers had employed local crews and dockside workers, including marginalized workers hired for landing and unloading, yet much of the industrial value chain has shifted north (even before the trawl ban): processing plants and landings moved to Santa Catarina over past decades, weakening RS-based provisioning.

Shrimp trawl activity is highly seasonal, especially red shrimp (*Pleoticus muelleri*) and Argentine stiletto shrimp (*Artemesia longinaris*), which are less central to daily local diets than demersal food fish. Pair trawlers used to fish year-round, mostly targeting pescadinha (weakfish) and cascote (juvenile croaker). Since the trawl ban, gillnetters report increased catches, and communities note improved access to locally consumed fish.

These accounts suggest that bottom trawling has not been a primary driver of local food security in RS. Instead, restricting trawling may enhance food access by increasing the availability of inshore food species.

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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References

Cardoso, L. G., Haimovici, M., Abdallah, P. R., Secchi, E. R., and Kinas, P. G. 2021. Evite o arrasto de fundo nas águas costeiras do sul do Brasil (Portuguese translation of letter).

Oceana USA. 2023. Brazil's Supreme Court Upholds Ban on Bottom Trawling in Rio Grande do Sul.

Hofmeister, N. 2022. Sul do Brasil vê o retorno dos peixes após proibição da pesca de arrasto. Mongabay Brasil.

Rodrigues Filho, J. L., Cioneck, V. M., Gentil, E., and Machado, R. 2020. A state-level restrictive policy as a potential trigger to discuss collaborative actions towards more sustainable shrimp fisheries on the southern coast of Brazil. *Ocean & Coastal Management* 196. A state-level restrictive policy as a potential trigger to discuss collaborative actions towards more sustainable shrimp fisheries on the southern coast of Brazil

SINDIPI. Statement on the 12 nm trawl ban and shrimp fisheries. [Brazil_Sindipi.pdf](#).

Plano para a Retomada Sustentável da Atividade de Pesca de Arrasto na Costa do Rio Grande do Sul. March 2021.