

Bottom Trawl Impacts Far Less than Claimed if Accurate Spatial Measurements Used

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At one of the seminars during last week's Fish Expo in Seattle, scientists from the University of Washington and colleagues unveiled some of their latest research on bottom trawling impacts. They suggested that better data shows the impact of bottom trawls on sea floors around the world is lower than often claimed by opponents of trawling.

Dr. Ricardo Amoroso of the University of Washington and the National University of Comahue in Argentina, refuted commonly held claims from NGOs about the extent of areas impacted by bottom trawling.

Amoroso studied effects in more than thirty areas around the world that have been traditionally been fished using bottom trawls.

"Trawling is not everywhere," he said. "Fishing effort tends to be aggregated in very specific areas, which tend to be impacted multiple times a year. Trawl effort is highly concentrated, with many areas untrawled. A large fraction of effort take place on a small portion of the bottom."

Amoroso noted that using a finer scale of measurement — one kilometer instead of 40, for instance — gives a much more accurate view of impacts.

Looking at Alaska, South Africa, Australia, and New Zealand, Amoroso compared resolutions of 40 km, 10 km, and one kilometer to measure how much of the total trawling area is actually trawled. At a resolution of 40 km, 70 percent of the area appears to be trawled; at a 10km-resolution that view drops to 50 percent, and at the finest 1-km resolution, a more accurate 30 percent is seen.

“In fisheries where we have data,” Amoroso said, “there has been some progress in stabilizing/reducing fishing effort.”

Amoroso is part of a team of scientists researching the effects of bottom trawls on sea floors and the plants and animals that live, feed, or travel through there. Dr. Ray Hilborn and Dr. Bob McConnaughey also presented data from their research at the Pacific Marine Expo conference.

McConnaughey described the impacts of bottom trawling on the Bering Sea, looking at both chronic and acute impacts. His results underscored the global observation that trawling effort is declining (since 1990) in both the Eastern Bering Sea and the Gulf of Alaska.

Bottom trawl effects from chronic effort have reduced epifauna diversity and abundance, and average body size of several species (except red king crab) on soft-bottom habitat and increased species dominance and some predators.

“Benthic invertebrates in soft-bottom areas of the EBS are relatively insensitive to trawling. There is a threshold level of trawling beyond which significant effects occur,” McConnaughey concluded.

Hilborn assembled a team of international experts to make an independent assessment of the science of benthic impacts.

“We’re looking at the footprint of trawling in different areas around the world,” Hilborn said. “To determine impacts on different benthic organisms by ger type, habitat, and species.

“We will evaluate a range of possible best practices for bottom trawling,” as one of the final results of the project, he said.

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