



GILLNETS, HOOK-AND-LINES AND POTS

GEAR CONSIDERATIONS IN A NEW NEWFOUNDLAND COD FISHERY

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*In 2017, Yann Rouxel worked with fishermen on the Northeast coast to complete his master's thesis entitled **Evaluation of Best Practices for Fishing Sustainability: Fishing Gear Assessment in the Newfoundland Northern Cod Fishery**, through the University of Westfjords in Iceland.*

Here are some of his perspectives derived from his experiences, analysis and education. Bill Montevecchi supervised the research through his lab at Memorial University.

With the gradual recovery of the most iconic species in Newfoundland waters, a groundswell unseen since the cod moratorium is currently building in the provincial fishing industry.

While the shellfish fisheries helped coastal communities survive the past decades, they are now facing

major declines. For instance, the quotas for shrimp and snow crab saw respective 22 per cent and 63 per cent cuts in 2017, leading to concerns about the future of fishing in Newfoundland.

Essential for the provincial economy and socio-cultural identity, a fishery depending mostly on groundfish rather than shellfish appears to be the next progression in the fishery. Though the difficulties are obvious and could be overwhelming as we attempt to move from high-valued shellfish enterprises to a low value finfish fishery.

So, if we are really going to fully commercially harvest cod in Newfoundland waters, we should do it right this time.

Overfishing and poor management led to the collapse of the Northern cod stock in the late 1980s/early 1990s, yet the roots of the demise of cod lie much deeper. Even at present, we appear stuck with the view of the golden age of the cod fishery in which the stock seemed a boundless source of cheap protein. Yet that perspective remains strong and besides individual ac-

tions to revalue cod, such as is taking place on Fogo Island, the species is still largely viewed as a “raw material” commodity.

In 2017, a pound of the very best quality Newfoundland cod was sold by harvesters at \$0.75-\$0.83/pound, but the average value of cod caught by inshore fishermen was \$0.59/pound. This means that about a third of the current fish value is lost in the harvesting process. Increasing the value of cod should be the major focus of the fishery.

Filling this “quality gap” will immediately increase market competitiveness and thus should be the first objective of fishery stakeholders. The price per pound of snow crab and lobster are six and 12 times higher respectively than that of cod. Even considering that the DFO Precautionary Approach framework holds that the cod stock is still in the “critical zone,” this does not necessitate a low market value species.

If we continue to follow fishing schemes used in the 20th century, cod recovery will be undermined and will lead to unsustainable resource use. Expectations following the cod recovery announcement are naturally high but need to be tempered and properly directed. The consequences of increasing the 3PS cod stock quotas based on overestimated stock assessments pushed harvesters to suspend their Marine Stewardship Council (MSC) certificate, exemplifying the need for extreme precaution during stock recovery and revaluation of the species.

From marine ecosystem health concerns to our fishing nation competitors, everything has changed while our view of cod has remained almost the same since before the moratorium. In Iceland, where Atlantic cod was similarly the historic backbone of the fishing industry, the value of cod has increased, notably by favoring exported high quality fresh-chilled products.

Due to a catching process that ensures better quality, Icelandic cod is, for example, sold for about 25 per cent more than Norwegian cod on the British market. If we want to host a thriving cod fishery in Newfoundland, we need to rethink our practices.

Cod inshore fishermen use mostly bottom-set gillnets as gear to fill their quotas, but more and more voices rise to denounce the negative effects of this gear. Gillnets have well-known collateral effects on marine mammals and seabirds. Thousands of harp seals, harbour porpoises, humpbacks, other whales

and seabirds along with tonnes of cold water corals are entangled in gillnets each year.

Besides its significant effects on the marine environment, gillnets cannot ensure the quality level of cod caught with hook-lines or pots. Up to half of cod caught with gillnets in Newfoundland are of lower quality, which certainly explains the loss of a third of the value for cod caught by inshore fishermen. Although hook-and-lines and cod pots are used around the province, they are still marginal in terms of landings. Hence, switching to gear that ensures the best quality of cod could certainly benefit fishing incomes as well as providing more opportunity for fish stock recovery.

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Beyond this local scope, promoting value of wild harvested seafood addresses a more global concern. Owing to the limited resources of our planet and the continuously increasing demand for seafood products, it is absolutely necessary to reconsider how these products are valued.

Considering that 2050 projections of the world's human population would be around 10 billion with increasing demand for seafood and the general state of world fish stocks with 53 per cent fully exploited and 32 per cent overexploited, depleted, or recovering from depletion, most fish stocks could disappear rapidly. In fact, two options are available — to carry on with business as usual or to proactively navigate towards positive change for our collective well-being. Current economic trends and the rise in environmental awareness and concerns are paving the way forward.

A 2016 MSC consumer survey indicated that seafood consumers tend to put sustainability even before price and brand and that 54 per cent of consumers are



COD WITH GILLNET SCARRING.
PHOTO BY YANN ROUXEL

willing to pay more for a sustainable seafood product and up to 72 per cent of consumers would consume only products from sustainable sources.

Last, but not least, let's not forget that the demographic of our province will soon force us to deeply rethink our fishery. With most of Newfoundland fishermen older than 45 years, we will soon have to anticipate a major decline in labour availability and aging workers, which will benefit practices ensuring the best



SOFT CORAL BYCATCH FROM
GILLNET. PHOTO BY YANN ROUXEL

incomes per efforts and which are less physically intensive. In that sense gillnets seem once again to be a carry-over from the past, because gillnets are more labour intensive and physically demanding than other gear.

Although alternative gear for gillnets, such as hand-lines and cod pots are not perfect, they move the fishery in the direction of a more sustainable and quality-based industry. Furthermore, there is scope for improvement for hook-and-lines and cod pot fishing. They could benefit from new designs and improved working conditions, such as automatic jigging reels which are already widely used in the Gulf of Alaska Pacific cod fishery and in the Icelandic cod fishery.

A gillnet-based fishery does not value a species that is in low abundance recovering from commercial extinction. The many collateral effects of gillnets on the environment are numerous and raise ethical questions about the merits of the practice. Hence, it is appropriate and timely to seriously consider options better adapted to the provincial situation and the new challenges of the 21st century.

In light of Fisheries and Ocean Canada's commitment to improved fisheries management, upcoming regulations could soon facilitate low impact gear use. The management renewal for the Northern cod fishery could implement strict bycatch/discard policies as has been done in other cod fishing nations and have proven that low impact fishing gears can improve fishers' occupational stability.

While hand-lining could be viewed as a technological regression, the innovation race that drives the fishing industry should not preclude constructive approaches to sustainability. For example, the use of automated hook-and-line gear is being explored in Newfoundland and it too could provide an effective alternative to gillnetting.



HAND-LINING COD IN THE BACCALIEU
TICKLE. PHOTO BY YANN ROUXEL

The Northern cod collapse proved the power of technology to destroy renewable resource sustainability and to create widespread social and economic damage. Gear offering the best compromises for sustainability, such as hand-lines and cod pots, should play more dominant roles in future fisheries. ‡

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