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Fishing with gillnets creates problems for fishers and seabirds
Birds I View
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Gannet entangled and drowned in a herring gillnet on northeast coast June 2017
[photo: Marina Montevecchi]

Gillnets are a widespread fishing gear of choice used by fishermen in Newfoundland and throughout the North Atlantic. Gillnets are efficient and can catch lots of fish. But there are problems with gillnets that do not benefit the fishery, fish or other marine animals.

Owing to circumstance, especially when the gear is set far from shore, the nets remain in the water for long periods - sometimes days. When this occurs the fish die in the nets and can in some situations start to deteriorate or be scavenged. The quality of such catches is often low and does not fetch the best prices.

In contrast, hook-and-lines land live fish that are bled upon catch and yield a higher quality fishes that bring better prices. But hook-and-lining takes considerable repetitive effort and is unlikely to land as much fish as a gillnet. Automated hook-and-line devices are popular in Iceland and Norway but do not appear to be used here. Often fishers hook-and-line between gillnet sets.

A few fishermen also use cod pots. These devices like lobster pots catch live fishes that yield high quality prices but pots do not catch as much fish as a gillnets and are large and cumbersome. Trials with smaller lighter Norwegian pots are being tested by Marine Institute researchers and fishers on Fogo Island.

The trade-offs among gears are considerable in terms of fish quality and value and working conditions. And how much high quality fish can be sold, what are market limitations

and buyer constraints? The global market is massive and selling wild fishes from sustainable fishery in a clean ocean could make Newfoundlanders extremely wealthy for generations. And we don't want to be selling fishes only to the top 1 % on the economic hierarchy, so it is necessary to integrate multiple processing strategies to optimize fishing profit potential and sustainability.

Catching unwanted non-target animals in gillnets

The use of gillnets exploded during the 1970s and 1980s, and translucent monofilament gillnets replaced biodegradable twine nets. This abrupt overexpansion of the inshore fishery played a role with offshore dragnets in the commercial demise of northern cod.

There were frequent collisions and entrapments of whales and a significant catch of diving seabirds like puffins and murres that got entangled in the nets and drowned. The significance of the seabird catch was evident the population increases of diving seabirds after the moratorium when the gillnets were removed from the waters. Unfortunately seabird bycatch still occurs at times when gillnets are set in sensitive inappropriate areas.

For instance, a gillnet set off Tinker's Point in a hotspot for feeding whales and seabirds in the Witless Bay Reserve netted and drowned more than 40 murres in mid-August (Ian Jones, Janine Winkle). As the murres were likely breeding adults and as two parents are needed to successfully raise a chick, the dead murres will also account for more than 40 dead chicks. Gillnets have no place in seabird reserves.

Reducing seabird bycatch in gillnets

Biologists and fishermen are collaborating in the US, Europe and South America to devise ways to reduce unwanted bycatch in gillnets. One approach is to make the nets more detectable using auditory or visual cues. Some promising and some conflicting results come from experimental tests.

Auditory signals reduced bird catch while at the same time attracting seals – something referred to as the “dinner bell effect”. High contrast warning flags have had some success in reducing seabird entanglement.

In Newfoundland we are running experiments with fishing crews off the northeast coast. We compare catches in gillnets with warning flags and gillnets without flags. The information of interest to fishermen is whether the flags reduce their catches. So far the evidence suggests that this not the case but we are currently running tests to firm up conclusions about fish and bird catch in gillnets with and without warning flags.

We also compare the catches and fish quality when gillnets soak in the water for different lengths of time and at different times of day and night. Shorter soak times yield more live fishes and could reduce the probability of catching seabirds though we have no clear evidence of this.

With hook-and-lines, we compare catches by Newfoundland jiggers with fluorescent Norwegian jiggers. We plan to test light-enhanced jiggers in an attempt to increase hook-and-line catch rates.

Lots to do, lots to learn and major outreach efforts to keep gillnets outside of seabird ecological reserves.

Birds in area

On 29 August, Tony Lang was aboard a vessel about 140 km SSW of Cape St. Mary's. During 35 minutes in the evening he counted 86 Manx shearwaters, including a flock of about 30 birds loafing on the water. This amazing number is related the southern Buren Peninsula – Saint Pierre Miquelon area that is a hotspot for Manx shearwaters of local and of European origins.

At Aspen Cove on 9 September among other shorebirds Nick Soper saw a Hudsonian godwit, 2 Pectoral sandpipers and 3 dunlin. At Cape Freels the next day, Nick and Barry Day had a Hudsonian godwit, 2 pectoral sandpipers, a stilt sandpiper and a Wilson's phalarope. On 31 August 3 Hudsonian Godwits were at English Point beach in Forteau Labrador, feeding with some Dowitchers (Vernon Buckle). Solitary black-bellied plovers were seen in Long Pond Manuels (Seth Bennett) and in Musgrave Harbour.

On 30 August, Bellevue Beach was hot for Frank King who observed 100s of semi-palmated sandpipers and plovers, white-rumped sandpipers and sanderling. Twenty-two Red Knots, 5 black-headed and 1 Bonaparte's Gull were notable as were 14 short-billed dowitchers, and a stilt sandpiper identified from a photo (Bob Bierregaard, he Osprey tracker).

White bird reports - in early August, a rare white morph common murre was photographed on Funk Island (Marina Montevocchi), and in September while out in his boat Darren English saw a white cormorant the water that flew to a flock of roosting cormorants (not sure if it is double-crested or great; Tony Power).

On 26 August, a great blue heron was seen at Cape Ray (Marina Montevocchi). Rich Nugent noted the unusual occurrence of a crow killing a blue jay on the north side of the Quidi Vidi gut. He also took down his summer bird feeder (hoorah Rich).

Birds I View columns are at <http://play.psych.mun.ca/~mont/outreach.html>. Contacts = mont@mun.ca, 695-5305 [c], 864-7673[w], 895-2901[h]