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Destruction by the capelin fishery outweighs the benefit

Birds I View
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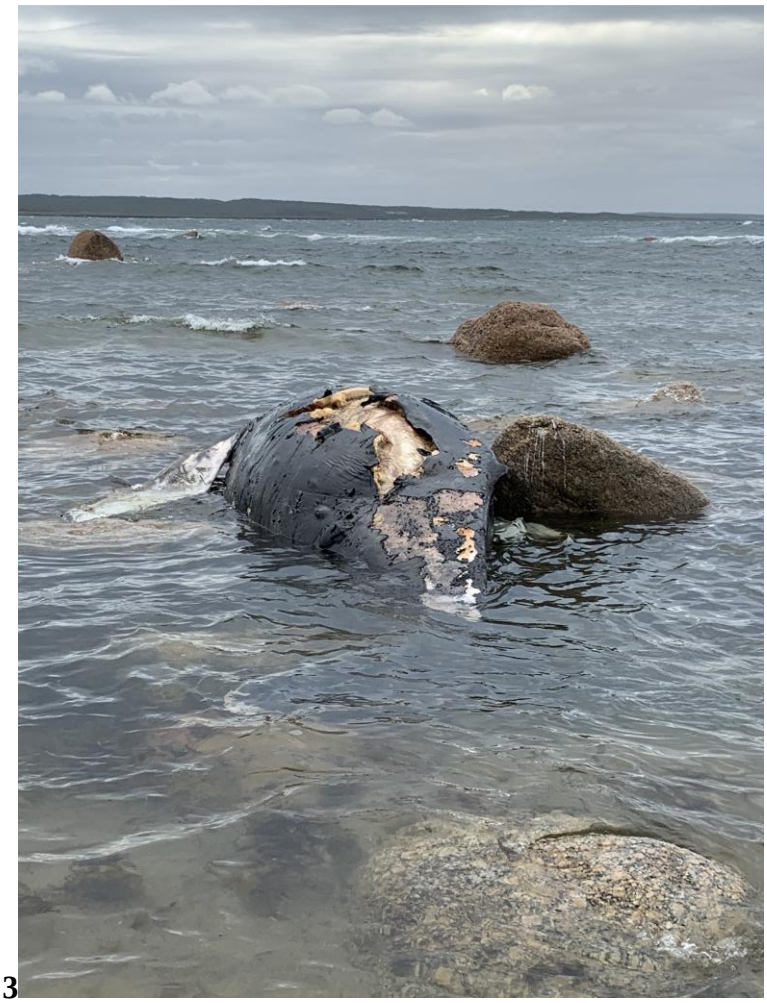

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Dead humpback whale calf on Lumsden Beach in the immediate area and aftermath of an intensive pursue-seining capelin fishery among the whales. (photo: Bill Montevecchi)

"Everybody knows the ship is sinking, everybody know the captain lied …
Everybody knows the deal is rotten. Everybody knows."
Leonard Cohen

Conversations in coastal fishing communities, on CBC Radio and other public and social media including fishers, scientists, environmentalists and others converge on widespread condemnation of the capelin fishery.

Capelin occupy a central role in the marine food web of the Newfoundland-Labrador region. Capelin are referred to as forage fish because they are the primary food base of larger marine animals including cod, turbot, seabirds, seals and whales. Capelin are needed for growth and well-being of these species. Capelin have been having a tough go lately.

In the early 1990s when the northern cod stock collapsed from overfishing, it was anticipated the capelin stocks would surge as cod its primary predator was removed. Instead the capelin stock collapsed due an ocean climate effect that hastened the retreat of arctic sea ice and decreased their primary prey – copepods. And after three decades the health and growth of the capelin stock remains tenuous at less than 5% of pre-1990 levels.

This demise has been obvious to anyone who has tried collecting capelin on coastal beaches through the 1990s and 2000s. Beach spawning has been extremely late, sporadic, greatly reduced and in many locations has ceased altogether. What capelin there been have been smaller because the older fish are disappearing. The capelin that murres feed to their chicks have gotten continually smaller over the past three decades. Include in this a capelin fishery.

The commercial capelin fishery

The commercial capelin fishery is an egg-based fishery, primarily providing roe for the sushi market. The danger inherent in egg-based fisheries is that they not only target the current spawning stock but they also target the subsequent generation of spawners [eggs]. Egg-based fisheries by their very nature are doomed to collapse. The most recent example in our waters is the lumpfish fishery whose success inevitably drove it to commercial extinction.

While we hear a great deal about the possible influences of harp seal predation on northern cod and its recovery, much less is heard about the influence of the cod's primary food (capelin) or about fishery effects. And it is precisely these two factors that DFO science has identified as the likely causes for the lack of cod recovery which is "driven by an interplay between fisheries removals and bottom-up forcers, such as availability of food; in particular, capelin" (https://waves-vagues.dfo-mpo.gc.ca/Library/4071407x.pdf).

When the capelin stocks in the Barents Sea collapsed, cod showed reduced growth, delayed maturation and increased cannibalism. This is going on here and now.

Why then is there a capelin fishery? Because the scientific information and models that DFO scientists have are inadequate to quantify fishery effects on the stock. The burden of proof has fallen to those who are conservation minded.

Scientists know well that the major knowledge gap is estimation of capelin stock size. Without this information, DFO has not set fishing reference points for capelin.

The Norwegian-Russian capelin surveys capture enough data to set reference points for the Barents Sea capelin stock. They used to close their capelin fishery in 2019 and 2020. A similar approach was used to close the Icelandic capelin fishery in 2019. Temporary closures of these fisheries have been followed by recoveries of cod.

The capelin stock is in decline and predators are eating less capelin likely an effect of a reduced stock. Given these circumstances, the proportional impact of the fishery has increased.

Collateral damage by the purse-seining capelin fisheries

Too many aspects of the capelin fishery are not considered in assessments of its influence on the stock. Processors accept only specific sizes and proportions of females to males in landings. Hence capelin fishers often high-grade their hauls. That is - a seine bursting with capelin is pulled to the surface and sampled to see if the processor criteria are met. If not the fish many if not most are crushed, suffocated or dead are just dumped. These dumped fish are not counted in the DFO quota which is based on landings at the wharf. Fishers are motivated to high grade because if they don't the processor can reject the catch at the wharf.

There are other ways that the capelin fishery kills fish that do not appear in quota considerations. Recent reports are disconcerting. A purse-seiner on the northeast coast with a haul of 300,000 or 400,000 pounds (two different reports) had an allowable catch of a tenth or less of the haul. A couple of other seiners also took small amounts from the massive haul but in the end hundred thousands of pounds of fish were just dumped. Another catch of 30,000 pounds was rejected by the processor at the wharf – dead fish … dumped.

Dumping is a relatively standard operating procedure contributing to uncertainty about fishing mortality. It calls into serious question the relevance of the DFO quotas based on landings and how much management is actually conserving the stock or not.

Concerns have been raised about the bycatch of Atlantic salmon in pursue-seining in the vicinity of rivers and estuaries. Capelin seiners often work among the seabird and whales feeding on the same fishes. A recent rodeo on the northeast coast involved 17 vessels one of which encircled a whale in a purse-seine. While the crew somehow managed to get the animal out of the seine, another whale reportedly struck one of the boats. In the immediate area and aftermath a dead humpback calf whale washed ashore on a beach in Lumsden (see photo).

Accountability and moving forward

Scientific knowledge can always be improved. If DFO's scientific capability progressed such that it could estimate the capelin stock biomass, precautionary reference points could provide scientific rationale for proceeding or not with a commercial fishery in a given year. Closures temporary or final should involve license buy-backs from fishers affected.

DFO could mandate that all hauls be landed for a set price per pound. Such regulation would eliminate high-grading catches. It is unlikely that processors would buy into such a conservation-based fishery. The small fixed trap fishery for capelin could be encouraged as an alternative to purse-seining.

Of everything ongoing in the ocean, we have direct influence over only one - the fishery. We have to better understand and regulate its influence. Closures of the capelin fishery could be run as adaptive experiments to assess beach spawning in the areas where purse-seining operated.

The capelin fishery is subject to observer coverage but coverage is dismal if even used. Observers could include scientists and managers.

What prompted this column was a conversation about the capelin fishery with an elder fisherman on the NE coast. With a dejected voice he said “It’s gone. We did it. We did it.” Yes sir, we did it. We’ve done it before, and we will likely do it again. Everybody knows.

Birds in the area

Often secretive bitterns have been seen at Mitchells Pond (Carole Peterson) and Musgrave Harbour. In mid-August, a sharp shinned hawk ripped a robin's nest from a tree in Middle Cove and ate the nestling despite fierce defense by the adult robins (Don Deibel). A recent sighting of a merlin chasing and hitting a robin in mid-air resulted in an explosion of feathers but a lucky escape by the robin.

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