Fish, Food and Allied Workers

Original Comment: The commercial fishery is very important to the many rural communities in Newfoundland & Labrador. While the membership of the FFAW|Unifor live in communities as far north as Fish Cove Point (just north of Cartwright), our Labrador members' fish in NAFO divisions 2G, 2H, 2J and 3K for crab, shrimp, turbot, cod, etc. As well, our harvesters in 4R (northern Newfoundland) have rights to fish in 2J, and our northeast coast fishers still have fishing rights of the coast of Labrador as well. We also have members who fish quotas for the Natuashish Government in 2H.

There is an item on utilizing a 7 day temporal pre-research survey separation that comes up in several places in the document (i.e. pgs. 156, 184). It is the understanding of FFAW|Unifor that this is being accepted by DFO when it comes to their Research Vessel Trawl Surveys, but it is not feasible to be utilized in connection with the execution of the Industry-DFO Collaborative Post-Season Trap Survey for Snow Crab. If there are further questions on these matters it would be worthwhile to communicate with the shell-fish research scientists at DFO. The reviewer is only aware of the implementation of spatial separation having been discussed in the context of any recent programs in Newfoundland & Labrador. The FFAW|Unifor is obliged to again state that any impact on either harvesting of fisheries science should be recognized as unacceptable in the Newfoundland & Labrador waters.

MKI Response: MKI commits to maintain regular communication with DFO, the FFAW, independent fishers, and managers of other key corporate fisheries in the area throughout survey operations. Seismic surveys will be scheduled, to the extent possible, to reduce potential for impact or interference with DFO science surveys or fishing activities.

FFAW Response: As per Appendix 2 of the Geophysical, Geological, Environmental and Geotechnical Program Guidelines of the C-NLOPB proponent should stay away from active fishing areas and fisheries science work to mitigate any negative impacts. The comments provided by the FFAW|Unifor are to address the uncertainties and implement the precautionary approach of influence on the fisheries and fisheries science. It is evident in the responses from the DFO Research Scientist that such precautions are warranted due to the "speculative nature of possible effects of seismic activity on snow crab".

Original Comment: **Section 4.3.3.1 Historical Fisheries, page 48** - In the context of the changing composition of the commercially harvested species, it is worth to note how there have been changes to the environmental regime that impacts the species composition, independent of the harvesting activity.

MKI Response: Noted. Shifts in environmental conditions favoring crustaceans (e.g., colder water temperature) and swift decreases in groundfish predators from declines in Newfoundland and Labrador's groundfish stocks in the early 1990s resulted in rapid growth of crustacean populations such as northern shrimp and snow crab.

All fish have physiological limits within which they can survive, such as sea temperatures and salinities (Rose 2005). Frank et al. (1990) analyzed the effects of changes in oceanographic conditions induced by a global increase in atmospheric CO_2, and their models predicted a general warming and freshening of the continental shelf waters, leading to shifts in the geographic distribution of important commercial groundfish stocks, earlier arrival times and later departures for highly migratory large pelagics, and – in combination with increased water column stratification – decreased organic material reaching the seabed. Rose (2005) inferred that capelin and Atlantic herring react strongly and quickly to climate change, owing to their physiological limits and potential for fast population growth; this was verified through the examination of historical data from Icelandic and Greenland waters, which warmed considerably during 1920 to 1940, resulting in capelin, Atlantic herring, Atlantic cod, and other species shifting north very quickly.

FFAW Response: The nature of the comment provide by the reviewer was in fact to establish that the reverse of what is being explained happened in the 1990s is happening now.

Canada – Newfoundland and Labrador Offshore Petroleum Board

Please provide the coordinates of the Study Area.