Fisheries Council of Canada
Conseil Canadien des Pêches

Submission to Standing Committee on Fisheries and Oceans

Study on the Science at the Department of Fisheries and Oceans

August 31, 2022

About FCC and the sector:

Fisheries Council of Canada is the voice of Canada's fish and seafood industry, promoting a healthy resource and prosperous industry playing a vital role in the Canadian economy.

FCC members include small, medium and larger-sized companies along with Indigenous enterprises that harvest and process fish from Canada's three oceans and inland waters. Member companies create jobs in their communities and provide an economic base that sustains and creates other local businesses. Our members also play a vital role in supporting independent fishers by providing access to global markets and to both capital and operating costs.

Our members process the majority of Canada's fish and seafood production and harvest a significant portion of the fisheries resources of Canada – making FCC a key contributor to the conversation on Canada's fishing sector. In addition, Canadian and international companies and institutions providing products and services to the industry are associate members of the FCC.

The industry has a significant presence in Atlantic Canada and Quebec, followed by BC, and Nunavut, with some freshwater fishing concentrated in Manitoba and the Great Lakes.

Canada's fisheries sector directly employed 90,000 Canadians and accounts for $9 billion in gross domestic product (GDP) for the Canadian economy. Canada's largest seafood importer is the United States (70.4%), followed by China (12.6%), the European Union (3.4%) and Japan (2.8%).

Canada is a leader in the adoption of third-party sustainable fisheries certification. Canada ranks second (as a percentage of fisheries certified, 60%) among the top countries with certification. This is in the context of only 19% of the world's fisheries being certified.

For over 100 years, the FCC represented the sector to champion:

- Market access and global trade policies
- Adoption of world class food safety and quality programs
- Sustainable fishing practices and conservation efforts nationally and internationally
- The need to achieve and maintain economically viable fisheries

We endeavour to create a prosperous Canadian industry that is internationally competitive and believe this is achieved in part through smart legislation and good policy.

Introduction

FCC shares the Standing Committee's interest in examining how the Department of Fisheries and Oceans (DFO) prioritizes, resources, and develops scientific studies and advice for the department, how the results of scientific studies are communicated to the Minister and Canadians, and how the Minister applies data and advice provided by the department and other government departments to ministerial decisions. Canada is a global leader in fisheries science through our Canadian Science Advisory Secretariat (CSAS) which coordinates the scientific peer review and science advice for DFO. The CSAS publishes departmental scientific advice and information on issues such as fish stock dynamics, species at risk, invasive species, ecology of marine and freshwater ecosystems, marine protected areas, aquaculture, and the use of living aquatic resources.

As the marine environment shifts due to climate change, it has never been more important to have a robust fisheries management regime. It is imperative to have decisions on harvest levels made on the most up-to-date and comprehensive data available to ensure that fish and seafood remain a sustainable low-carbon protein source to meet domestic and global food demand. This is foundational to the sector's growth potential under a Blue Economy Strategy.

While FCC trusts the scientific review process, we have had some concerns regarding how fisheries science is conducted for several years and believe the department needs to address them to ensure fisheries management is kept at a high standard and maintains Canada's position on the international stage.

Science Review Process in Fisheries Science

DFO relies on scientific advice when making fisheries management decisions, using a structured peer review process administered by CSAS. The CSAS process provides an opportunity for experts from government, academia, professional organizations, First Nations, and other stakeholders to participate in fisheries science, including peer-review of the data, methods and analysis to prepare advice to support decision-making by the Federal Minister of Fisheries. This process is internationally respected, making Canada a global leader in fisheries science and management.

Lately there has been some criticism of the process, specifically in relation to certain stocks, however we believe that these are process-specific and can be addressed and do not indicate broader systematic issues. CSAS may not be perfect and should be continuously improved but replacing this process entirely with a new one is unnecessary and could undermine the credibility of future scientific advice.

A broad criticism presented to FOPO on the CSAS process is the participation of industry at the table of working groups and science processes with some suggesting that industry should be excluded because of perceived bias. Industry provides key insights into the history and practical operational side of fisheries, and in many cases are actively conducting focused research and data collection to support DFO Science on topics that the Department does not have the capacity to support. Indeed, industry's contributions regarding management measures, markets, gear modifications, species mix and abundance on the interpretation of catch data (survey and commercial) is an important element of the review and analysis. Without industry providing current and historical data and insights from research activities outside of the Department lens, the resulting advice that emerges from CSAS would be incomplete and less accurate.

While the CSAS processes are generally robust, we do believe there are opportunities to improve when it comes to the inputs necessary for its success. We would like to take an opportunity to describe such improvements that we see as being easily achievable to improve the integrity of CSAS. Within the CSAS

process, external experts are invited to be a part of the scientific review, however, compensation for these experts is routinely ignored. This results in either cursory efforts by these external experts or a difficulty in finding reviewers with the appropriate expertise as they are more likely to go to other jurisdictions that offer better pay. Directed funding could address this challenge.

Timely publication of documentation arising from the CSAS process is often problematic, meaning that Ministerial decisions are often made prior to science advice being publicly available (often on the order of years). Timelines to complete and publish CSAS reviews should respect that the Minister requires the necessary information before making any management decisions and the Canadian public should have access to the scientific rationale behind that decision. Timeliness of the CSAS advisory reports are not always consistent across regions and between types of reports with observations that on the Pacific coast the Science Advisory Reports (SARs) are released in a relatively timely manner however the corresponding Research Documents can often take years to be released.

It is imperative that the Minister and the entire government have full confidence and support the science that is produced by the department and through the CSAS process. Constant criticism and/or deviation from the process will only cause greater distrust of the department amongst domestic and global partners and potentially weaken the reputation of Canadian fish and seafood products globally. Instead, we encourage review and adjustment as a healthy way to strengthen the already world leading CSAS processes.

Insufficient Resources within DFO that Need to be Addressed

Since 2015, the government has increased investment into the department going from $1.6 billion in 2014/15 to $4 billion estimated for 2022/23 which included expanding hiring processes and the development of new programs. The increased investment was welcomed and needed. However, the majority of the funding tends to be focused more on ocean science rather than fisheries science. The resources for core stock assessment science have not changed substantively since the influx of funding. In conversations with DFO, FCC has been assured that sufficient resources have been allocated to conduct the necessary science, including fish stock rebuilding plans, but that has yet to be demonstrated. FCC is not questioning the resources allocated to inform Canada's marine conservation efforts. We need to do both – oceans science and fisheries science.

Stock assessment science is at the core of sustainable fisheries management. Recent staffing efforts within the Department in response to increased funding for other priorities has drained many fisheries stock assessments groups of staff and new qualified stock assessors are difficult to find. Positions within the stock assessments groups are routinely left unfilled or filled by staff with limited subject matter expertise. The demographics of the existing cadre of staff means that attrition by retirement is taking its toll on institutional knowledge. This shortage of Highly Qualified Personnel to complete the necessary stock assessments needed by CSAS has led to less rigorous stock assessments. Prioritizing the hiring and retention of fisheries scientist specializing in quantitative stock assessment is greatly needed.

Robust scientific analysis rests on robust data sets. Increasingly, activities that carry out data collection critical for analysis have been disrupted, due to either lack of funds, inability to procure a survey vessel, or other processes taking precedence over stock assessments because of the staffing issues described above. It is becoming routine for extended gaps in Research Vessel surveys throughout the Atlantic and Arctic oceans due purely to mechanical failures of Coast Guard survey vessels and poor logistical planning. An example of this occurring is in the North where the DFO multi-species survey, the primary survey for Greenland Halibut in NAFO Areas 0A and 0B have not had a survey completed in the last 4 years.

Mechanical failures on new Coast Guard vessels are preventing their required calibration to the aging Coast Guard survey vessels before their decommissioning deadlines. The gaps in survey series and lack of calibration means that the long-term integrity of key indexing series have been interrupted, affecting the ability to assess stock status and stock rebuilding.

In the Pacific, the information needed to complete stock assessments are being collected, however obligations under the Species at Risk Act (SARA) routinely displaces scheduled stock assessments two or more years past planned delivery dates. As it currently stands, the Atlantic and Pacific regions are years or decades out of date with some never having had a stock assessment completed.

Investment and long-term planning within the Canadian Coast Guard for a reliable, effective, and efficient vessel fleet to conduct scientific surveys is critical to the proper management, sustainability, and economic contribution of Canada's fisheries. The Government of Canada needs to prioritize the collection of stock and fishery monitoring data, or we risk undermining the value of Canada's ocean economy. Adequate information is needed to support a high standard of fisheries science advice that can be used to set appropriate management measures both for stock rebuilding when needed and for long-term sustainable harvests as stocks reach target levels. The future of the sector under the Blue Economy depends on avoiding unnecessarily precautionary harvest levels due to lack of information.

In the global sense, it is unclear how Canada's spending and investment into fisheries science compares with other countries. Understanding Canada's current global position in science investment would be very beneficial in gaining a full view of how our spending compares with other countries and gaining insight into how Canada could do better in the areas that are falling behind. Benchmarking Canada's level of effort and our comparative performance in stock status analysis, including the use of leading-edge methodologies and technologies would be insightful and most appreciated.

Consequence of Incomplete Stock Assessments

Sixty percent of Canada's fisheries are third-party certified to ensure the product is sustainably sourced. The Marine Stewardship Council (MSC) is currently the main certification body for wild capture fisheries. To be considered MSC certified as sustainable, it is essential that our seafood be fished from sustainable fish stocks. This determination is dependent on the stock assessments performed by DFO, and in cases where assessments get delayed or skipped for multiple years, it potentially results in fisheries losing their MSC certification. This also means losing major investments into a sustainable program. Global markets look for MSC certification, at a cost completely on the industry level. Losing this certification can have devastating effects on the hard work to build the market and labeling required to continue in the program and puts Canadian fish and seafood at a market disadvantage with consumers seeking confidence that it is sustainably sourced.

Loss of MSC certification has recently occurred along the Pacific coast where the industry had to voluntarily suspend their MSC certification for salmon because DFO science and management were unable to justify their management actions with good evidence. At the same time DFO is several stock assessments behind for some groundfish species along the Pacific, putting Pacific halibut and Pacific hake certifications at risk, but more importantly excluding the trawl fishery from moving forward with an application for MSC certification.

Currently 61% of Canadian marine seafood landings are certified against the MSC standard with Canada ranking second in terms of per cent certified among the top 10 countries by MSC certified landings. Canada could have an even higher percentage certified if all stock assessments were kept current.

Industry led Fisheries Science

It is imperative that the department have a contingency plan in the event that a Canadian Coast Guard vessel is no longer available. An option to address shortfalls in DFO research capacity is utilizing industry vessels to complete stock surveys. DFO can/should work with industry where needed, who have vessels available to potentially conduct the required surveys. DFO would need to ensure if industry is utilized to provide sufficient time leading up to the survey to guarantee industry vessels are compliant and capable of assisting.

There are examples where surveys are completed using industry-led initiatives which have been very successful. For instance, the Northern Shrimp Research Foundation (NSRF) which successfully conducts shrimp research surveys in Shrimp Fishing Area (SFA) 4 and the Eastern and Western Assessment zones. This survey has taken place every year since 2004 with no major issues in terms of vessel availability, timing, or coverage, and clearly demonstrates that industry can be a valuable partner to undertake scientific surveys to acceptable standards. Another case is with the Bay of Fundy herring purse seine fishery. The industry has made incredible investments to conduct annual surveys of the major spawning grounds and through the Herring Science Council (HSC) conducts research programs such as tagging studies, oceanographic sampling, plankton sampling and fat data collection. It is well recognized within DFO that the Bay of Fundy herring fishery is data rich, largely a result of industry funded initiatives.

Predictable and Transparent Decision Making

Science-based decisions are key for Canada to maintain its position as a global leader in fisheries management. While the previous sections detail instances where data gaps have negative consequences for the delivery of assessment advice, there are other stocks that have good reliable science on which to base management decisions. However, even with the science available, decisions get made that do not follow the science. For example, in December 2021, The Honourable Joyce Murray, Minister of Fisheries and Oceans and the Canadian Coast Guard announced numerous closures for the Pacific herring fishery in 2022 and a 50% reduction in the total allowable catch for the fishing unit in the Strait of Georgia. The decision was far more restrictive than the science suggested could be implemented and was delivered without stakeholder consultation. As a result, this caused an industry struggling with the challenges caused by the pandemic additional hardships. It is concerning to the sector that decisions were made on a rationale that was not peer-reviewed.

This was also observed with regards to decisions made in the North. In recent years, DFO has established total allowable catches (TACs) for Northern Shrimp that are not aligned with stock status assessments by DFO Science, not reflective of DFO Fisheries Management approaches, not consistent with the outcomes of consultative processes with industry and not compliant with the Department's Precautionary Approach Framework. The decision to establish a TAC in SFA 4 for 2022/23 at an exploitation rate of 8.5% when the stock has reached a historic high biomass level well within the Healthy Zone of the PA Framework reflects an arbitrary decision-making approach that appears to be based solely on the Minister's perceptions, rather than the advice of her officials and industry. Note also that the exploitation rate for SFA 6, having been in the Critical Zone of the PA Framework for years was appropriate established at 10 per cent, higher than the SFA 4 stock in the Healthy Zone. This decision doesn't stretch credulity, it can undermine DFO's stock assessment and fisheries management regime.

Overall, when stocks are managed in a way that does not align with the fisheries science recommendations, it creates great concern and uncertainty for communities that are dependent on these fisheries.

Conclusions

Fisheries science is essential in maintaining Canada's position as a sustainable fishing nation and for the sector to achieve its future growth potential. Having a complete understanding of how DFO prioritizes, resources, and develops scientific studies and how that information is communicated to the Minister and fellow Canadians and applied in practice is crucial for trust between the government and stakeholders. Overall, DFO needs to address data gaps and ensure that stock assessments are conducted in a timely manner. It is also very important that decisions made by DFO and the Minister are informed by peer-reviewed evidence with that rationale clearly communicated to Canadians and when in place, within pre-agreed decision frameworks that have been arrived at by consultation with stakeholders.

Recommendations:

We ask that committee members consider the following recommendations as you develop the report on the performance of DFO science:

- Revise the CSAS process to address any concerns rather than doing away with the process completely and developing a new one
- Increase funding resources for fisheries science in support of management decision-making.
- Engage with industry and leverage industry resources promptly to guarantee assessments can be completed in a timely manner
- Ensure DFO completes stock assessments at the needed frequency and to a high standard via the CSAS peer review process.
- Conduct a review of other countries' conduct on fisheries science to compare to Canada's current practices.
- Press DFO to implement a resource management framework that is evidence-based, predictable, transparent, and consistently applied.
- The Committee should ask for a response from the Government on this study

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