



AQUACULTURE MANAGEMENT

Fisheries and Oceans Canada (DFO) Shellfish (SF) Aquaculture Management Advisory Committee (AMAC) Meeting notes	
Meeting Date:	November 4, 2022, 9:00 a.m. – 4:00 p.m.
Location:	Crown Isle, Copper Room
OBJECTIVE	<ul style="list-style-type: none"> • Discuss and seek advice from committee members on shellfish aquaculture management, initiatives and issues

Attendees:

Mediator: Saul Milne

AMAC members:

Industry Licence-Holders (7 seats)

Keith Reid, Odyssey Shellfish Ltd.

J.P. Hastey, Nova Harvest Ltd.

Alex Munro, Taylor Shellfish Canada (Fanny Bay Oysters), Raincoast Sea Farms Inc.

Dan Dyle, Kilo Sea Farms

April Robson, Equinox Oysters

Ed Bereziak, Aphrodite's Garden Oyster Company

Industry Associations (2 seats)

Nico Prins, BC Shellfish Growers Association (BCSGA)

First Nations (7 seats)

Daniel Rabu, We Wai Kai Nation, Pacific Coastal Shellfish Ltd.

Conservation and Environmental Non-Governmental Organizations (ENGOS) (3 seats)

Caila Holbrook, Watershed Society of Comox Valley

Capt. Josh Temple, Coastal Restoration Society

David Critchley, Island Trust – Denman Island

Local Government (2 seats)

Daniel Arbour, Union of British Columbia Municipalities (UBCM)

Danielle Alan, North Central Local Government Association (NCLGA)

Ex-officio:

DFO

Brenda McCorquodale, Director, Aquaculture Management Division

Reagan Newcomb, Manager, Aquaculture Resource Management

Gabrielle Kosmider, Senior Coordinator, Aquaculture Resource Management – Canadian Shellfish Sanitation Program (CSSP)

Melinda Scott, Senior Coordinator, Aquaculture Resource Management - Shellfish

Chris Marrie, Senior Biologist, Aquaculture Environmental Operations - Shellfish

Elysha Gordon, Senior Coordinator, Area-Based Aquaculture Management

Grace Runciman, Coordinator, Area-Based Aquaculture Management

Greg Plummer, Senior Compliance Program Officer – Conservation & Protection
(C&P) CSSP Coordinator
Chris Pearce, Research Scientist, Science Branch, Nearshore Ecosystems Section

Government of British Columbia

Jessica Outhwaite, Ministry of Forests
Kevin Romanin, Ministry of Land, Water and Resource Stewardship
Lesley Chapman, Ministry of Agriculture and Food

Transport Canada

Elizabeth Harries, Navigation Protection Officer

Observers:

Malcolm Cowan, BC Shellfish Growers Association
Caitlin Russel, Ministry of Forests
Amber MacDonald, Ministry of Forests
Nina Nuernberger, Program Manager, Aquaculture Resource Management

Regrets:

Trevor Gray, Chief, Aquaculture Unit, C&P
Mike Turner, Ministry of Land, Water and Resource Stewardship
David Critchley, Island Trust – Denman Island
Rudi Mayser, Ministry of Forests
Myron Roth, Ministry of Agriculture and Food
Bill Heath, Comox Valley Project Watershed Society
Lawrence Kuan, Transport Canada
Gordon McLellan, Macs Oysters Ltd.
Marguerite Parker, Aboriginal Aquaculture Association

Absent:

Grace Adams, Tla'amin Nation, Tla'amin Management Services LP

Materials distributed:

Distributed via Dropbox:

<https://www.dropbox.com/sh/b8zjy1zj4hji2gh/AACW9LCM8V9eeDdZNZSCfx2ka?dl=0>

- 1) SF AMAC Meeting Agenda
- 2) SF AMAC Meeting Notes
- 3) SF AMAC Response Log
- 4) Presentations
 - a) BC Ministry of Forests (FOR) Presentation on Replacements: Process and Progress
 - b) Canadian Shellfish Sanitation Program (CSSP) and Conservation & Protection (C&P)
 - i) Human Waste Roles and Responsibilities
 - ii) PRISC Norovirus Mitigation Update
 - iii) Link to the Horizontal Evaluation of the Canadian Shellfish Sanitation Program :
<https://www.dfo-mpo.gc.ca/ae-ve/evaluations-eng.htm>
 - c) Nova Harvest FLUPSY (Floating Upweller System)
 - d) Comox Valley Regional District (CVRD): Integrated Management from a local government perspective
 - e) Science Branch, DFO report on climate change impact studies on BC shellfish
 - f) British Columbia Shellfish Growers Association (BCSGA): A financial consideration of growing compliance cost to the BC shellfish industry
 - g) Coastal Restoration Society (CRS): Overview of recent shellfish debris clean-up efforts

- h) DFO Condition of Licence Infographics: Foam Floatation, Gear Marking, Seafloor Cleanup
- 5) BC Ministry Organizational Charts (one per each of the three BC Ministries)

Meeting Proceedings:

Welcome, Introductions, and Overview of Agenda (Saul Milne)

- Saul reviewed the Agenda, and it was adopted by attendees.

Review Notes and Action Items from the last meeting (Melinda Scott)

- The last meeting's minutes were reviewed with no corrections requested.
- The action item log was reviewed with no questions from the committee.

DFO Regional and National Update (Brenda McCorquodale)

Staffing Update

- A consolidated approach for CSSP within DFO is being piloted. Four CSSP staff will now be under the Aquaculture Management Division and represent all Fisheries Management.

New Science/Reports

- Links are available in the agenda for new Research Documents from the Canadian Science Advisory Secretariat (CSAS) which may be of interest.

Transfer of Seed from the West Coast

- A national CSAS process will occur in December to review mitigation measures for aquatic invasive species (AIS) in the movement of shellfish at various life stages, and this will better help inform how seed might be moved from the West Coast safely.
- The BC Introduction and Transfer Committee is working with interested applicants on a case-by-case basis to understand and consider mitigation measures to potentially decrease the risk associated with seed movements from the West Coast.

AMAC Member Discussion

- Question: Does DFO foresee grant opportunities for finfish aquaculture?
 - Response: DFO is seeking confirmation and there could be opportunities for shellfish.
- Question: Would this include spat transfer from West to East Coast Vancouver island?
 - Response: A transfer from a marine site is different than land-based hatchery transfers which have disinfection processes in place to mitigate green crab transfer.
- Comment: DFO has yet to make a statement that differentiates the open net pen transition plan between salmon and other finfish species, such as sablefish.
 - Response: It has not been specifically addressed at this point. We do see that salmon has been the focus of discussions but that does not mean it will not impact other species. This is a discussion that we should revisit.
- Comment: The last five years have been hard for shellfish farmers, as the regulation process is already difficult for licence holders.
 - Response: The Minister is very keen to look at alternative aquaculture that is accessible and not overly bureaucratic. We are looking at it more from a land-based perspective right now.

BC Updates

Ministry of Agriculture & Food (MAF) Update (Lesley Chapman)

Lesley Chapman, the primary contact for the Shellfish Aquaculture file, provided an overview of many BC initiatives:

Natural Resource Sector Reorganization

- Presented the MAF organizational charts provided for the meeting.
- The Ministry of Land, Water and Resource Stewardship (LWRS) is responsible for fisheries policy and liaison with other government agencies and representing the province on fisheries treaties. They also maintain their focus on salmon, the provincial salmon strategy, and the BC Salmon Restoration and Innovation Fund (BCSRIF).
- MAF is responsible for industry development and implementing funding programs, with the exception of BCSRIF. Their main focus is on technical advice and capacity building for seafood production, culture and harvesting.

BC Fisheries & Aquaculture Ocean Acidification & Hypoxia Action Plan (OAH Action Plan)

- Work on the OAH Action plan began in the summer of 2021 and is now complete. The final document is expected to be released before the end of the year.

Extreme Weather Preparedness Program

- MAF launched this new program this year to fund acquisition of technology to protect farms from wildfires, flooding, and heatwaves. \$1.4 Million has been allocated to support farm preparedness to extreme weather events.
- MAF is exploring the development of a pilot project for shellfish growers specific to heat waves to be implemented in the summer of 2023.

Seafood Processing Capacity Assessment

- The objective of the study is to assess the BC seafood processing sector including current state, key challenges, and opportunities, and to make recommendations to support the viability of the sector.
- A contract has been awarded to GSGislason & Associates Ltd and the project will be completed by March 24, 2023. Reach out directly to gsg@gsg.bc.ca, or 604-685-7396.

Research – Extension

- MAF has been working with Vancouver Island University (VIU) on several research projects, including developing a norovirus early warning system.
- MAF is working with the Hakai Institute on OA monitoring around Vancouver Island, trying to expand nearshore monitoring efforts.

Funding

- PacifiCan has financial assistance programs for the seafood sector, including loan programs which provide up to 50% of project funding with no interest for five years. For more information, please follow up directly with the MAF Team.

Complaints

- Nuisance Complaints (odor, noise, dust, or other disturbances arising from aquaculture operations) can be referred to the BC Farm Industry Review Board if they can't be resolved directly with the farmer.
- Other complaints, and in particular those dealing with non-compliance with applicable legislation, should be referred to the appropriate regulatory agency.

China Import Food Enterprise Registration (CIFER)

- CFIA has sent a reminder that CIFER registrations are valid for only five years and must be renewed 3-6 months before their expiry date to remain eligible to export to China.

- Most registrations for establishments approved to export food and food products to China prior to CIPHER (January 1, 2022) will expire before the end of 2023.

Centre for Seafood Innovation (CSI)

- The CSI launched in 2021, is based at the VIU Deep Bay Field Station and is a research hub focused on the innovation needs of BC's seafood companies to extract more valuable from sustainable seafood harvests. For further information contact: Debra.Hellbach@viu.ca

Aquaculture Canada Conference

- The conference is organized by the Aquaculture Association of Canada, will take place May 7-10, 2023, in Victoria. For further details: www.aquaculturecanada.ca

Ministry of Forests (FOR) Replacements: Process and Progress Update (Jessica Outhwaite)

- Jessica reviewed the FOR organizational charts provided for the meeting and confirmed the FOR team has grown to 11 staff, with five staff dedicated to shellfish.
- Jessica presented on the files awaiting replacement, the files picked up this year, and the files with a conclusion pending.
- FOR has been working on bettering processes to share information with harmonized partners, reduce the number of people involved in the application journey, and reduce any delays related to communication.
- A new process allows the "stacking" of applications. For example a replacement, amendment and assignment at one time thereby aiming to reduce delays, overall paperwork, and fees.
- The Province is making a change regarding multiple tenure holders:
 - Now require the tenure holder to match the DFO aquaculture licence holder.
 - Individuals not listed on the BC tenure or DFO licence can only conduct activities on the tenure when authorized by the tenure/licence holder, e.g. as employees, contractors or volunteers. The tenure/licence holder is ultimately responsible for all activity on the tenure, and for anyone working the tenure on their behalf.
 - The implementation of this change will be forward-looking. BC is reaching out to offer options moving forward for applications currently being actioned.

AMAC Member Discussion:

- Question: If a licence holder applies for expansions now, and is hoping to expand a few years down the line, should they apply at the same time?
 - Response: It is best to submit all applications together to be processed together.
- Question: Does BC care about corporate structure? If one entity is to be named, who within a corporation should hold tenure?
 - Response: Limited partnerships, First Nations, and individuals can be named as tenure holders.
- Question: How does this impact tenure holders that lease tenures? For example, First Nations that lease tenures to farmers?
 - Response: The ability to lease tenures is not eliminated, but a BC sub-tenure agreement must be in place and signed.
 - Response: DFO requires the BC Company Signing Authority match the DFO licence.
- Question: What does BC need to know on the application/management plan regarding what infrastructure farmers are using?
 - Response: BC is trying to be more flexible to lessen any need for re-application. Whatever infrastructure is listed in the management plan can be used in the tenure.

- Question: A new technology was shared at a previous meeting. Does this mean that all licence holders wanting to try the new tech must still submit a new application?
 - Response: Yes, all infrastructure to be used must be on the management plan.
- Comment: Industry needs flexibility in order to advance.
- Question: How will BC communicate enforcement?
 - Response: It has been communicated as tenure agreements.
- Question: Do you recommend that all licence holders amend their application to include all of the possible gear?
 - Response: Stacking applications is being done to try to catch up on the backlog.
- Question: To change the direction of long lines, is an amendment application needed?
 - Response: Not for BC, but it might be for other harmonization agencies.
- Question: Why does the province need to know the specific gear type?
 - Response: BC is liable and needs to know what is occurring on Crown land.
 - Comment: A detailed management plan allows First Nations to have a better view of the proposed activities, and agencies to know debris clean up from abandoned sites.

BC Presentation on new Ministry of Land, Water and Resource Stewardship (LWRS) organization charts (Kevin Romanin)

Kevin Romanin reviewed the LWRS organizational charts provided for the meeting

AMAC Member Discussion:

- Question: Is there anything that LWRS can do to support FOR?
 - Response: Minister Osborne does recognize that there are strategic needs (i.e. staffing) and is working with the Ministry through the statutory solutions group.

Sector Check-Ins

First Nations

Daniel Rabu

- The We Wai Kai are expanding aquaculture operations including species not currently regulated.
- Toquaht First Nation has received an update for their geoduck application.

Local Government

Daniel Arbour

- Looking forward to being involved with the area-based pilot in Baynes Sound.

Danielle Alan

- Is interested in land-based aquaculture systems. Exploring opportunities in Rupert.

Industry Associations

Nico Prins

- The recent rain has brought significant closures and BCSGA is concerned that they will remain closed due to long sampling timelines. Recommend that conditional management plans for other areas should be considered.
 - Response: Gabrielle shared that funding is at the max. We are seeing in the cases where there are emergency closures, it is pushing the full 21-day closure. This is across Canada. They just do not have the money to do the testing in advance unless there is an existing agreement. Recommended reaching out to the Pacific Region Interdepartmental Shellfish Committee (PRISC) on this.

- Local government zoning requirements for some tenures. Concerned that aquaculture is seen as farming.
 - Response: BC added that the Province refers these issues to the municipality.
 - Follow-up: There should be a function between province and local government.
 - Response: Zoning is not a provincial requirement it is local government.
 - Question: How far into the water does local government zoning cover?
 - Response: The local government zone goes into the water.
 - Follow-up: BC added that treaty Nations will have shore zoning. A foreshore agreement will allow for Nations to have zoning on the shore.
- Pendrell Sound issue has not been resolved. Previously an action item was to create a working group to look into alternatives. They kept being referred back to original stance that it remains closed.

Environmental Non-Governmental Organizations (ENGO)

Caila Holbrook

- There are ongoing coastal projects.

Industry

Keith Reid

- Shared his frustration that regulations and processes are currently very challenging for industry. When they are this expensive and difficult, people leave the industry.

April Robson

- Agreed with Keith and shared that she is at experiencing challenges with what her farm can handle to meet regulations and make ends meet.

Ed Bereziak

- Agreed with Keith and added there have been number of farmers who have already left the industry as a result of overloaded regulations.

JP Haste

- Added that there needs to be some leniency as industry tries to keep up with changing technology, environmental conditions, and conditions of licence.
- Noted he appreciates the things that are being done to reduce mess from the industry, but industry needs time to adapt. BCSRIF has been important to help with this.

Canadian Shellfish Sanitation Program (CSSP) Update (Gabrielle Kosmider)

National Update

- The Horizontal Evaluation of the CSSP has been finalized and posted online. Link was included on the agenda and circulated with these meeting minutes. The objective of the evaluation was to identify challenges and opportunities in the management and delivery of the CSSP to provide senior management from CFIA, DFO and Environment and Climate Change Canada (ECCC) with evidence-based information to support ongoing discussions about future program direction, decisions and improvements.
- The evaluation examined the delivery of the program by all three federal partners and in all three regions where CSSP is implemented i.e., Pacific, Quebec and Atlantic regions over the last five years (2016-17 to 2020-21) and further back where relevant. The program's relevance, performance and design and delivery were examined.
- There were four key recommendations:
 - Recommendation 1: It is recommended that the CSSP ADM Steering committee develop, articulate and communicate to program staff renewed strategic guidance

about the program's priorities, scope and reach to address increasing demands and evolving changes in its operating context.

- Recommendation 2: It is recommended that the CSSP ADM steering committee clarify which federal partner is the lead of the CSSP. Further, it is recommended that they review all levels of interdepartmental governance and establish mechanisms to support more effective decision-making, ensure that long-standing issues are resolved, and operational staff are given timely guidance and advice when needed.
- Recommendation 3: It is recommended that the CSSP ADM Steering committee seek out opportunities to address resource gaps facing the CSSP to meet existing and increasing demands for program services and delivery. Solutions are required to address current risks related to CSSP resource management in order to ensure that health risks are minimized, the shellfish industry remains strong, and stakeholder and partner needs are served appropriately by the program.
- Recommendation 4: It is recommended that the CSSP ADM Steering committee review the CSSP's performance measures and develop an integrated performance profile with meaningful performance indicators and targets at the program level. Useful and accurate information on the achievement of results is needed to better support the management of the program. Ideally, program level performance indicators could be integrated into the broader results frameworks of the three respective partner organizations. CSSP performance data needs to be tracked, collected and reported consistently and in a timely manner across all three federal partners and all regions. Roles and responsibilities for collecting and storing the data should also be established.
- CSSP Senior Managers have developed an action plan in response to these findings and are required to report on progress every six months.

Regional Update

- PRISC was held last week with a much better level of attendance and engagement at the public engagement day, but still limited.
- This is the opportunity to engage with all of the CSSP partners and raise topics of interest/concern. Do not hesitate to ask for items to be on the agenda or to ask to provide a presentation.
- There were two areas where shellfish aquaculture facilities are going to be impacted, as water quality has degraded, and classification of the area will be changed to Restricted.

Norovirus Mitigation Working Group Update (Gabrielle Kosmider and Greg Plummer)

- Following the 2022 norovirus outbreak, there was a strong commitment by government and partners to reconvene mitigation work, originally focused on mitigating impacts of human waste from vessels, with a broader focus on overarching norovirus mitigation
- DFO convened a Norovirus Mitigation Working Group comprised of jurisdictional authorities involved in the management of shellfish safety, waste regulation, public health, pollution control and enforcement. The first meeting was held in June 2022.
- Several sub-working groups were established to focus on different priority topics:
 - Pollution Source Mitigation, chaired by ECCC with DFO chairing a vessel discharge sub-group;
 - Policy and Regulatory Changes, chaired by the CFIA, and;
 - Management Measures, chaired by DFO.

- One of the products of the mitigation working group is the updated roles and responsibilities document. This document was provided with the distributed AMAC meeting materials and can be requested from DFO.AQSF-AQMC.MPO@dfo-mpo.gc.ca.
- The sub-working groups continue to meet to update on/add to action plans.
- The individual agencies/authorities are to advance their own actions under their respective mandates.

AMAC Member Discussion:

- Question: Is it still the responsibility of ECCC to do identification and remediation of pollution sources?
 - Response: Yes, that is in their mandate.
- Question: Can analysis of water samples for coliforms differentiate between animal sources or vessel discharge?
 - Response: The concentration found in the water samples is not enough to do genotyping, however the BC Centre for Disease Control is interested in pursuing this line of inquiry. In 2018, we did analyze sea lion waste and were able to rule out norovirus strain carried by marine mammals as the cause for the outbreak. Work is still being done to find a better indicator for norovirus in the water.
- Question: Has there been any progress with the relationship with the United States Food and Drug Administration (USFDA) regarding exports?
 - Response: USFDA and CFIA are working together on this.
- Question: Is there work being done regarding concerns over septic system regulation?
 - Response: Health authorities have jurisdiction to regulate but it is a compliance-based system and must visually confirm waste at the surface.
- Comment: Perhaps PRISC norovirus mitigation working group seats could be expanded to industry.
 - Response: It is recommended that another forum carry this conversation further outside of the limited role that the CSSP partners play. This should be a topic at the Baynes Sound and Lambert Channel Ecosystem Forum.
- Question: Does the committee have capacity to do a global search to find out how other countries do traceability and indicators?
 - Response: The challenge is that the people working on this problem do not have the regulatory authority. How can we communicate with people to assign the authority?
 - Comment: A representative in the Regional District of Nanaimo lost his election over the issue of septic.
 - Response: During the 2018 outbreak the outcry from the industry drew a lot of attention, but there was little less heard from industry this year.
- Question: Since DFO is responsible for the health of the fish, why do they not have authority to do something about the septic pollution?
 - Response: Human health is not in the scope of DFO. DFO cannot act outside of the *Fisheries Act*, and is trying to get other authorities together to find solutions.
- Question: Is there a mandate to protect a fishery?
 - Response: DFO completed a level of analysis, and it was not to the level that this can be done. DFO does not have the precautionary tools in our toolbox only reactive in the case of norovirus outbreaks.
- Comment: The Facilitator highlighted that industry would like to be more involved with working groups.

- Question: Is there an opportunity for industry to be involved in policy and regulation change discussions?
 - Response: There is no opportunity in the government partner meetings but the CSSP partners welcome meetings anytime. It is recommended to reach out to Andre Youssef and Lindsay Smith at PRISC.

ACTION: Add Norovirus Mitigation Working Group Update to the next AMAC agenda.

Presentation on BCSRIF funded Floating Upweller System (FLUPSY) (JP Hastey)

- The aim is to support West Coast oyster industry development through expansion of nursery seed supply.
- Farmers currently face many challenges. The industry demand for large FLUPSY grown seed is greater than supply.
- FLUPSY was designed to reduce challenges to growers, lower cost of materials, lower transport costs, leverage reliable energy through solar, and adapt to ocean conditions.

Presentation by Coastal Restoration Society (CRS) (Capt. Josh Temple)

- The CRS is a non-profit organization based on the west coast of Vancouver Island which focuses on ghost gear cleanup, shoreline cleanup, derelict vessels, aquatic invasive species, and aquaculture site removals. Over 600 tonnes of debris has been removed to date.
- The CRS is looking for new funding opportunities. Funding has previously been provided under the Ghost Gear Fund.
- The CRS works in partnership with First Nations, and provides employment to First Nations and local industry operators.
- The CRS is expanding to invasive species removal, including green crab.
- If funded by BCSRIF, the CRS plans to expand throughout Pacific Region.

AMAC Member Discussion:

- Question: When remediating a site, has there been any concern with the impact under the *Fisheries Act*?
 - Response: Environmental assessments are conducted ahead of any remediation. CRS works with provincial and federal departments to make a plan, and Section 52 covers what they need to meet.
- Question: How have First Nations been involved with the green crab work, and how do you dispose of the crabs?
 - Response: Due to current AIS regulations, they are prohibited to use them, and the crabs are currently being disposed by directing to landfill. CRS is not looking to monetize the disposal and would like to find a use for them in order to reduce waste.
- Question: What is a rough budget to clean up an abandoned site?
 - Response: It depends on how much debris and if it is below the tidal line, but over \$100,000 on average.

Presentation on CVRD South Region – Integrated Management from Local Government (Daniel Arbour)

- Regional sewer service for CVRD South Region will address poor conditions for septic systems, risk to Baynes Sound, aging and failing systems, and existing population hub.
- Cumberland has a \$10,000 project to bring management up to regulation by next year.

- Sewer extension is estimated at \$50,000. There is concern the project will double property taxes for the area, and will not resolve concerns in Deep Bay and Bowser.
- Recommend applying political pressure regarding norovirus issues in order to spread awareness and make it easier for homeowners to understand why the project is needed.

AMAC Member Discussion:

- Comment: The Northern Health Authority does not have the capacity to respond to this. This does not mean they are not interested.
- Question: Failing systems are the actual concern, not septic. The regional authority has the power to enforce the upgrade. Why is it that CVRD is stuck on a \$50 million price tag? Are there other options to upgrade per household basis?
 - Response: CVRD does not have the authority to look at septic systems and does not want to transfer the cost to homeowners.
- Question: Has the Regional District of Nanaimo been approached to collaborate on the sewage issue?
 - Response: Yes, but no interest has been expressed. There is noted public disapproval of moving away from septic.

ACTION: Daniel Arbour to discuss with Cumberland representatives and confirm what will be tested for in the new sewage management, such as norovirus.

Presentation on Climate Change Impact Studies on BC Shellfish (Chris Pearce)

- Presentation included ongoing challenges for the shellfish industry, including oyster summer mortality and climate change; along with three solutions to these challenges (further information available in the slide presentation):
 - Create stronger oysters;
 - Adapt farming practices to create fitter oysters, and;
 - Improve understanding of climate change impacts and develop mitigation strategies.

AMAC Member Discussion:

- Question: Have you considered how this product will be commercialized or will it be stuck at the research level?
 - Response: It is Tim Green's current project, and the results may benefit the industry.
- Question: Are razor clams affected by hypoxia in Haida Gwaii?
 - Response: Yes, unsure why mass die-offs are happening there.
- Question: What species of kelp are you looking at?
 - Response: Likely sugar kelp, completed in conjunction with Cascadia.

Presentation by BCSGA – A Financial Consideration of Growing Compliance Cost to the BC Shellfish Industry (Nico Prins)

- Time restraints on funding were a challenge with BCSRIF. Even if the money was available not all sites could not be cleaned up in BC due to the lack of divers and clean-up resources.
- BC's shellfish aquaculture growth rate has dropped while the global and national production has increased significantly.
- There are many regulations regarding aquaculture in BC and it is overwhelming to licence holders.
- With every norovirus closure event, industry loses approximately \$10 million in sales.

AMAC Member Discussion:

- Question: Does the BCSGA have advice or solutions for DFO?
 - Response: BCSGA would like to see more funding and multi-year funding opportunities. The debris problem being addressed was caused over 50 years and a lot of the debris consisted of very old, outdated gear.
- Question: Is the BCSGA aware of regulatory costs in other regions?
 - BC Response: Regulatory costs in BC are significantly higher than other Canadian provinces.
 - DFO Response: As the regulator, DFO is in a difficult position as there is public displeasure regarding ghost gear.
 - Transport Canada (TC) Response: The funding aspect of the TC application is coming into effect sometime in the new year. There is still the opportunity to comment when it goes to the Canadian Gazette. The committee is encouraged to provide feedback.

New Shellfish licence condition coming into force April 1, 2023 (Chris Marrie)

- Chris reviewed the three new conditions of licence infographics provided for the meeting.
- The new conditions align with Ministerial mandates.
- DFO is always seeking advice and feedback, and would appreciate constructive ideas and solutions.
- The initial cost is going to be high for industry members that were not proactive with gear marking and maintenance.
- Shellfish Conditions of Licence will be up for consideration prior to re-licensing in 2025.

AMAC Member Discussion:

- Question: How soon after new conditions come into effect will C&P be enforcing them?
 - DFO Response: That is at the discretion of C&P, but there will not be blanket enforcement as of April 1, 2023.
- Question: The requirement to dive yearly is unfeasible. Is there an opportunity to alter the condition for the dive survey to attach an amendment on a site-by-site basis?
 - DFO Response: The intent of this condition is not to put companies out of business. DFO consulted industry on licence condition changes prior to implementation. If the conditions are not realistic or achievable, there will be an opportunity to revisit them for further change prior to the next licensing cycle in 2025.
- Comment: AMAC members see mixed messaging from the government. It is great to see funding opportunities, but more time is needed in order to be able to cover the cost of innovation and cleanup.
 - DFO Response: The Minister wants shellfish and land-based aquaculture to be alternatives to marine finfish aquaculture, and does not want to be restrictive. Now is a good time for feedback on any regulatory barriers.

Presentation on Area-Based Aquaculture Management (ABAM) (Elysha Gordon)

- The Baynes Sound ABAM Pilot opening ceremony was held on October 24, 2022.
- Appreciation was extended to everyone on the committee who was able to attend or provide support in the application and provide their input during the last AMAC meeting. All responses were recorded and shared for implementation in the pilot project.
- Next steps include the development of an area committee, establishing a term of reference, and determining the role of industry.

AMAC Member Discussion:

- Question: How far is DFO in the two-year plan?
 - DFO Response: Six months in.

ACTION: DFO to provide Dan Dyble with a copy of the previous SF AMAC ABAM presentation.

ACTION: ABAM to provide another update at the next AMAC meeting.

Roundtable

- AMAC industry members shared some frustration that this committee is no longer a voice for industry, and there is insufficient discussion and consultation on current regulations. The government needs to consider the cost to industry for these changes and the time requirements to implement them.
- It was requested that there be more opportunity for licence holders to bring up their individual concerns.
- A concern was noted that there were no solutions gained out of the meeting, just reiterated frustrations from industry members.
 - The Facilitator reminded AMAC members that the Terms of Reference allow for sub-committee formation, and encouraged members to utilize this for further discussion.
- A lack of current First Nations participation in the SF AMAC was noted as a concern.
- Members requested that meeting binders continue to be provided.
- Members were reminded the SFAMAC Terms of Reference were adopted in the last meeting and should be reviewed by members from time to time.

ACTION: DFO to send a survey requesting discussion topic suggestions for the next AMAC.

Summary of Action Items

- Add Norovirus Mitigation Working Group Update to the next AMAC agenda.
- Daniel Arbour to discuss with Cumberland representatives and confirm what will be tested for in the new sewage management, such as norovirus.
- DFO to provide Dan Dyble with a copy of the previous SF AMAC ABAM presentation.
- ABAM to provide another update at the next AMAC meeting.
- DFO to send survey requesting discussion topic suggestions for the next meeting.

Summary of Recommendations

No formal recommendations were brought forward from the SF AMAC body as a whole, but a number of actions were recorded in the minutes.