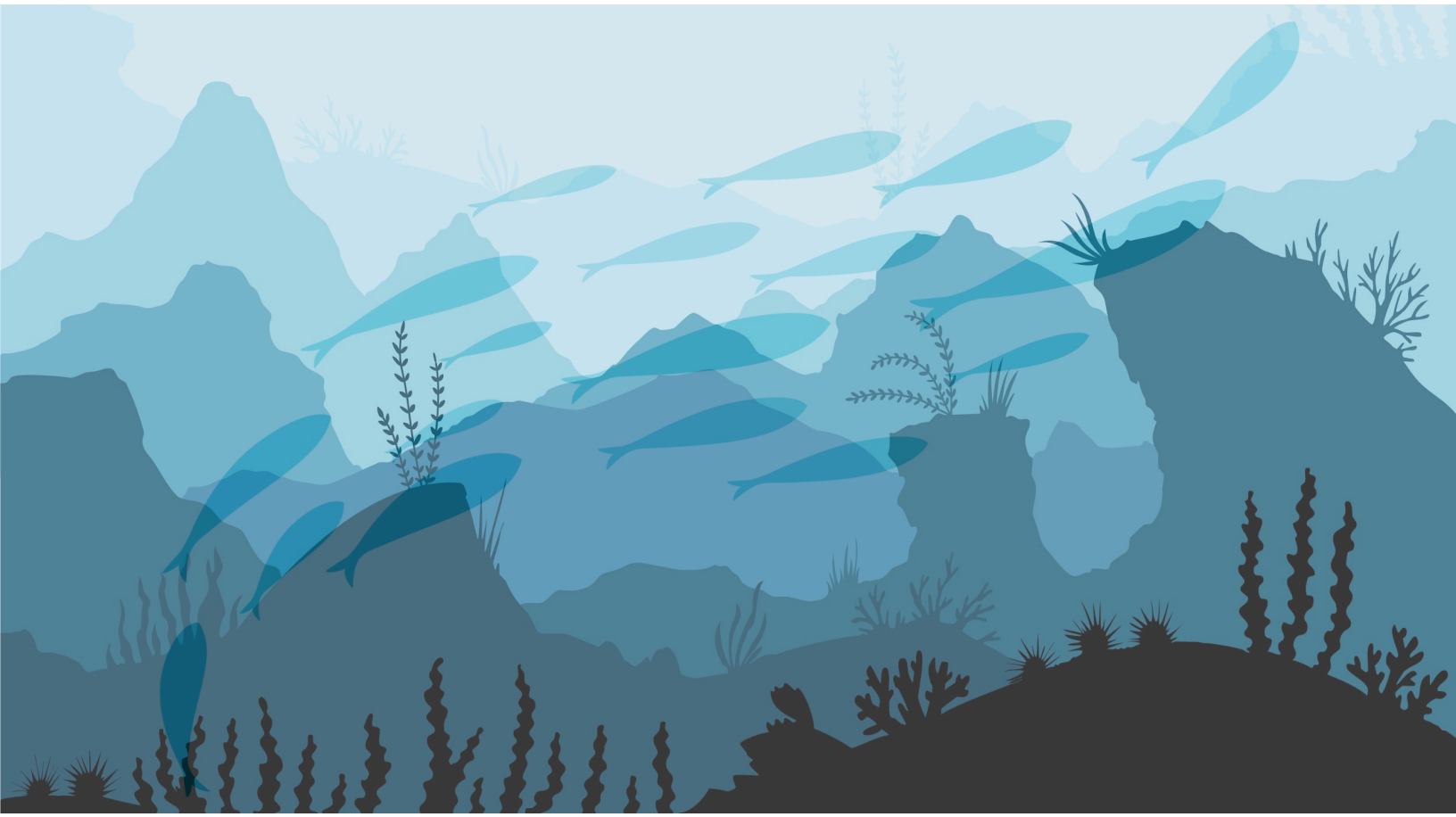

Baynes Sound / Lambert Channel Ecosystem Forum | Fall 2021

Summary Report

Prepared by VMS

With the generous financial support of:

Islands Trust

Comox Valley Regional District

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Executive Summary

The Baynes Sound / Lambert Channel Ecosystem Forum (hereafter referred to as the "EcoForum") took place on December 10th, 2021 via Zoom online conferencing. In attendance were approximately thirty participants from First Nations, federal, provincial, and local governments, as well as members of industry, higher education, and environmental conservation organizations. A list of participants can be found in Appendix A.

The EcoForum has been meeting since 2018 on a bi-yearly basis with three key goals:

- To create opportunities for information sharing and collaborative dialogue among diverse stakeholders of the Baynes Sound / Lambert Channel ecosystem
- To identify ongoing processes and collaborative actions with potential to support the health and recovery of this ecosystem
- To share knowledge, experience, and ideas that can inform research and problem-solving

The Fall 2021 EcoForum provided an opportunity for the Steering Committee and the Alternative Practices Committee to report back to EcoForum members on progress made since Spring 2021. It also provided a space for presentations and important group discussion.

The first presenter gave an overview of the new Fisheries and Oceans Canada Area-Based Aquaculture Management (ABAM) Pilot Project. The K'omoks First Nation shared that they would be applying to become an ABAM Pilot Area and the EcoForum agreed to support the KFN application, seeing this as an ideal opportunity to expand on opportunities for collaborative ecosystem planning and management.

The second presentation described the Clean Coast Clean Waters Initiative which carried out a cleanup of Comox Valley shorelines collecting over 36 tonnes of marine debris. The presenter shared some lessons from this experience that can help inform future policies meant to prevent marine debris from entering the environment.

The final presentation described research done to assess the carrying capacity for shellfish in Baynes Sound and Lambert Channel. The presentation was followed by questions and answers about the potential for shellfish aquaculture expansion in the area.

Members spoke about the risks associated with allowing ship-breaking in Union Bay and discussed whether the EcoForum should take an official position on this.

Please contact info@bayneslambertecoforum.ca if you have questions or comments about this report.

Introduction

Land Acknowledgement

We acknowledge that participants of the Baynes Sound / Lambert Channel Ecosystem Forum live and work in Indigenous, Métis, and/or Inuit communities across BC.

EcoForum participants gathered digitally from the treaty and traditional territories of BOḰEĆEN (Pauquachin), Cowichan, Halalt, Homalco, Kómoks, Klahoose, Ts'uubaa-asatx (Lake Cowichan), Lək̓ ʷəŋən (SXIMEŁEŁ (Esquimalt), Songhees, TSou-ke, Lyackson, MÁLEXEŁ (Malahat), Penelakut, Qualicum, Scianew (Beecher Bay), səl̓ilwətaʔɬ/sel̓? íl̓witulh (Tsleil-Waututh), SEMYOME (Semiahmoo), Shíshálh (Sechelt), Snaw-naw-as (Nanoose), Snuneymuxw (Nanaimo), Sḵwx̱wú7mesh (Squamish), SƛÁUTW̱ (Tsawout), Stzuminus (Chemainus), Tla'amin, Tsawwassen, We Wai Kai (Cape Mudge), Wei Wai Kum (Campbell River), W̱JOŁEŁP (Tsartlip), W̱SIḴEM (Tseycum), and xʷməθkʷəy̓əm (Musqueam).

We want to especially thank the host communities of Kómoks, Qualicum, Snaw-naw-as and Tla'amin First Nations.

Grant & Funding Acknowledgement

Financial support has been graciously provided by the Islands Trust Programs Committee, the Lush Cosmetics Charity Pot, and by the Comox Valley Regional District's Rural Community Grant which was applied for by the BC Shellfish Growers Association on behalf of the Baynes Sound / Lambert Channel Ecosystem Forum.

EcoForum Purpose & Goals

The overarching objectives of the EcoForum are:

- To create opportunities for information sharing and collaborative dialogue among diverse stakeholders of the Baynes Sound / Lambert Channel ecosystem
- To identify ongoing processes and collaborative actions with potential to support the health and recovery of this ecosystem
- To share knowledge, experience, and ideas that can inform research and problem-solving

This EcoForum report is intended to provide a summarized overview of discussions, decisions, and actions undertaken at the EcoForums held on December 10th, 2021. Please note that formal consensus was not necessarily achieved on each and every point of discussion, though there has usually been agreement on steps for moving forward.

The Baynes Sound & Lambert Channel Ecosystem

Baynes Sound and Lambert Channel lands and waters have been the homeland of Indigenous Peoples since time immemorial. Their cultural heritage, knowledge, and stewardship of this area for thousands of years highlights the importance of this place as a unique coastal homeland.

Baynes Sound and Lambert Channel, a thermally stratified inland sea, is a highly productive ecosystem, home to a regionally unique combination of diverse marine and coastal habitats. As such, it has been internationally recognized as an *Important Bird Area (IBA),* and nationally designated an *Ecologically and Biologically Significant Area (EBSA)*.

Baynes Sound / Lambert Channel is the highest ranked cumulative spawning and rearing area for herring in the Strait of Georgia: Thirty-eight percent (38%) of all herring spawning that has ever occurred in BC (based on >30,000 records) has occurred in this area,[1] positioning this area as a critical linchpin for the ecosystem health of the Coast. Seabirds, juvenile salmon, mollusks and other forage fish find shelter in the ecologically-distinct elements of Baynes Sound and Lambert Channel. The Sound and Channel are summer molting areas for sea ducks, with significant aggregations of waterfowl, shorebird and gull species during herring spawn. Several at-risk bird species use Baynes Sound for feeding or stop-overs.

Baynes Sound / Lambert Channel contains important foraging and haul out sites for Pacific harbour seals as well as Steller and California sea lions. Baynes Sound and Lambert Channel have been consistently used as spawning and rearing grounds for the last commercially harvested stock of Pacific herring. The estuaries and riparian areas of the Sound provide spawning and rearing habitat for coho, chum, coastal cutthroat trout and likely steelhead as well. More than fifteen salmon bearing streams drain into Baynes Sound and Lambert Channel. Intertidal eelgrass beds act as nurseries and provide protection and valuable food sources for these salmon. Significant quantities of both wild and cultured shellfish are produced within these waters.[2]

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1 *Dr Doug Hay, retired. herring scientist, DFO in his Nov.2013 letter to FLNRO Deputy Minister Tim Sheldan*

2 *Subsections titled "EcoForum Purpose & Goals" and "Baynes Sound & Lambert Channel Ecosystem" are based on the 2018 Baynes Sound / Lambert Channel Ecosystem Forum Summary Report by Dr. Karen Hurley and Kim Dunn.*

Fall 2021 EcoForum Overview

The Fall 2021 Baynes Sound / Lambert Channel Ecosystem Forum took place via Zoom videoconferencing on December 10th, 2021 from 9:30am-3:00pm. The event began with an introduction and land acknowledgement by Facilitator Jessie Hemphill of Alderhill Planning. She noted the goal of the EcoForum is to take care of an area that has been stewarded by First Nations peoples since time immemorial, and to acknowledge that we play a part in continuing that environmental stewardship by their side.

She reminded the group that there are three primary objectives for this EcoForum:
a) to introduce Area-Based Aquaculture Management and to ensure we develop a plan for submitting an Expression of Interest for Baynes Sound/Lambert Channel;
b) to hear from speakers about research and work taking place in the Baynes Sound / Lambert Channel area; and
c) to provide an opportunity for EcoForum members to reconnect with one another.

Presentations

Area Based Aquaculture Management – Amber Neuman

Amber Neuman is the Senior Area-Based Aquaculture Management Coordinator at Fisheries and Oceans Canada. She provided an overview of the ABAM model and explained what they will be looking for in a Pilot Project.

The ideal applicant for a Pilot Project would be an indigenous and multi-stakeholder working group, that would preferably bring together First Nations, BC Government, Industry, Community Stakeholders and other knowledgeable parties. Since the EcoForum has been bringing together these groups and has already worked to develop the relationships of trust needed to carry out this kind of work, the Baynes Sound/Lambert Channel area has potential to be an ideal location for a Pilot Project.

The ABAM model is meant to address VALUES that are unique to the target area, this could include: social, cultural, economic, and environmental values, as well as issues such as food security and other uses of the target area.

The ABAM model is already in place for some finfish management sites, but would be new for shellfish aquaculture.

The ABAM model would foresee a number of levels of coordination:

- A Regional Coordinating Committee for BC
- An Area Committee for each specific region
- An Aquaculture Management Zone for each specific zone
- License Conditions for each site

Timeline for the Pilot Project:

- Introduction & Planning 2021-1
- Collect input 2021-2
- Development 2022-1
- Collaboration & Review 2022-2
- Finalize & Implement 2023

An ideal area for the ABAM Pilot Project would have the following characteristics:

HIGH VALUE aspects:

- Existing partnerships and ongoing relationships with other stakeholders
- Minimum of one First Nation, preferably two or more if the target area overlaps traditional territories
- Opportunity for collaboration between First Nations and Industry

MEDIUM VALUE aspects:

- A defined geospatial area, that can be clearly described, mapped, and assigned as one unique Aquaculture Management Zone (AMZ)
- A descriptive explanation of existing aquaculture (minimum 5+ licensed facilties)
- Potential for growth or innovation, whether that be through growth or expansion of existing facilities, or innovations with respect to technology or aquaculture processes

If we can demonstrate success over 2021-2023 on a Pilot Project, there is potential for expansion to other areas in 2023.

During the discussion following the presentation, Todd Boychuk, Director of Intergovernmental Affairs for the K'omoks First Nation indicated their interest in leading the application to make Baynes Sound / Lambert Channel the next ABAM Pilot Project. This was unanimously well-received and supported by EcoForum members.

Fisheries and Oceans Canada indicated that their Aquaculture Management Group has some capacity funding available to provide support to applicants. They are also willing to support the KFN application by providing supporting documentation needed for the application. Grace Runciman of Fisheries and Oceans Canada will work with Todd to assist with the application.

There is value in involving multiple First Nations in a proposed area, especially when there are territorial overlaps. The Steering Committee will reach out to the Qualicum and Tla'amin First Nations to see if they are willing to support the ABAM Pilot Application. As the initiative progresses, boundaries for Areas or Zones can be expanded or contracted to better suit the needs of the Pilot Project. In the selection process, they will be looking for a Pilot Area that offers good potential for scalability, given that a

successful Pilot Project would ideally provide a model that could be applied to other areas in 2023.

Support was expressed by EcoForum members for choosing Baynes Sound / Lambert Channel for an ABAM Pilot Project because it provides an opportunity to demonstrate how to cooperatively accomplish goals in an area that has jurisdictional complexities.

EcoForum members agreed to seek approval from their respective organizations to write letters of support to be sent to Fisheries and Oceans Canada. The Comox Valley Regional District, the Regional District of Nanaimo, Islands Trust Denman, Project Watershed, the Assn of Denman Island Marine Stewards, and the BC Shellfish Growers Association indicated their intention to seek out letters of support from their organizations. Islands Trust Denman agreed to reach out to Islands Trust Hornby for their support as well.

EcoForum participants voted to approve the following motion:

> ***Be it resolved that the Baynes Sound / Lambert Channel Ecosystem Forum write a letter in support of the application for a Pilot in ABAM that is being put forward by the K'omoks First Nation.***
>
> Moved by DW, Seconded by LB, Carried

Dorrie Woodward will draft the letter of support to be signed by the Steering Committee on behalf of the EcoForum.

Clean Coast Clean Waters Initiative – Lisa Pierce

This massive cleanup project focused on 180km of shoreline in the Central Salish Sea, included six marine stewardship organizations, first nations collaboration, and a huge team of community volunteers and cleanup workers.

The outcome was an astounding: 38 metric tonnes collected: 18 tonnes were recycled, 3 tonnes were reused, 16 tonnes were landfilled. Of the collected debris, 95% came from the shellfish industry. This is not surprising given that this area represents 50% or more of BC's shellfish production. While there are some examples of good shellfish industry stewards, the reality is that there is a great deal of community frustration with the industry. Aside from the derelict gear, we found other problems, such as the use of the shoreline and the high tide line as a storage site for gear, or as a dumping ground for the industry's broken gear. We also found a surprising amount of evidence that the shoreline is being used by workers to defecate. There was a significant amount of gear along the Fanny Bay and Union Bay stretch of shore, some of which required special machinery to remove. With the exception of Mac's Oysters, it was disappointing to find extremely low cooperation from industry.

The objects found during the cleanup were primarily oyster trays, floating bags, rope, predator nets, styrofoam, and zip ties, among other industry gear.

There are some lessons we can take away from this experience. Planning and funding for cleanup efforts must be ongoing, as the gear washing up on shores increases every year. The approximate cost of carrying out these cleanups is $12/kg or $5/lb collected. We cannot focus on cleanup efforts alone. Significant damage has been done to spawning grounds, estuaries, and other sensitive habitat. So there must be funding set aside for ecological restoration projects in order to begin reversing that damage. We need regulatory changes, including the prohibition of certain types of industry gear to ensure dangerous gear is no longer lost at sea during storms or as a result of irresponsible storage methods. Enforcement activities must be more proactive to ensure that industry is cleaning up their intertidal tenures. We need to point out that community-led cleanup crews are not allowed to enter active tenure areas to carry out cleanup efforts, so the only option is for industry to recover the lost and broken gear in those areas.

During the discussion following Lisa's presentation, Nico Prins, the new Executive Director for the BC Shellfish Growers Association expressed frustration over the inexcusable amount of marine debris documented in the presentation. He added that only 57% of growers belong to the BCSGA, the other 43% of growers have many derelict, abandoned, and non-productive farms that the Association has little influence over. They are hopeful that DFO will force these growers to become members of BCSGA in future so the Association will have a better chance of influencing behaviour among growers at large. The Association believes that much of this derelict gear is coming from those growers.

Baynes Sound Carrying Capacity for Shellfish – Dr. Terri Sutherland

This research was carried out with support from Mike Foreman FVCOM, Maxim Krassovski FVCOM, Thomas Guyondet, Ramon Filgueira DEB Model, and others. Researchers also collaborated with Gordy McLellan of Mac's Oysters, and Hollie and Greg Wood of HollieWood Oysters.

This study was a collaborative effort to develop a high-resolution, bay-wide assessment that detects change over time. The research took over 9 years to complete, and was meant to determine the ecological shellfish carrying capacity in Baynes Sound. There are challenges in estimating food availability due to vertical migration of phytoplankton, seasonal changes in salinity versus depth, the timing of spring blooms of phytoplankton, and the non-uniform distribution of phytoplankton productivity in Baynes Sound.

The research included a study of water currents and how they affect phytoplankton. They looked at two types of phytoplankton: flagellates and diatoms. They found that the areas where the greatest amount of water mixing takes place are the areas of greatest productivity for phytoplankton. This means there is a great deal of phytoplankton

productivity around Tree Island and Chrome Island, especially during South-Easterly and North-Westerly winter storms. Whenever wind mixes with water, there is a phytoplankton renewal process that leads to greater productivity.

They found that the areas most sensitive to changes are the areas of Mud Bay, Fanny Bay and Deep Bay. We should keep an eye on these areas so as to not over-exploit shellfish plots there. However, the research concluded that there is still capacity to maximize existing tenures.

Discussion following the presentation raised a couple of questions/comments:

On the impact of septic flushing and its potential effect on phytoplankton, Dr. Sutherland noted that phytoplankton prefer ammonia and tend to surge upward and may even flourish when they come across it.

It was noted that phytoplankton is vitally important as a food source for herring and other forage fish, and that these are the building blocks for overall ecosystem sustainability. There was some concern that if we maximize existing aquaculture tenures, there may not be sufficient phytoplankton to sustain a higher shellfish capacity and the needs of herring and forage fish at the same time.

Another concern raised is ocean warming and acidification. Water temperatures during the heat dome reached 26.7% at the water surface and led to massive shellfish die-off. Going forward we will need to look at how climate change might also affect phytoplankton's ability to sustain a higher shellfish capacity.

Committee & Working Group Reports

Steering Committee Update – Daniel Arbour and Dorrie Woodward

The Steering Committee met in the Fall over several months to organize and prepare for this December 2021 EcoForum. At the last EcoForum, the Steering Committee was tasked with determining what kind of work needs to be done so that the EcoForum will have: a) a coherent picture of the health of Baynes Sound and Lambert Channel, and; b) a functional model for influencing government planning and regulatory decision-making. The Steering Committee will continue to pursue available funding sources to carry out the above. It is also possible that some of these tasks will form part of the work to be done within the Area-Based Aquaculture Management Project, should our area be approved for the Pilot.

Alternative Aquaculture Practices Committee Update – Barb Mills

The Alternative Practices Committee has been meeting for approximately three years and it has been a sometimes difficult but fruitful process that has allowed members to create trust and to have open dialogue about some of the difficulties involved in finding

alternatives to the current system. In order to work on mutual solutions we tried to focus on changes that wouldn't impact growers in terms of time or profits.

We've had some successes this year. We provided input into Fisheries and Oceans Canada's Aquaculture Conditions of License, which resulted in the development of really good infographics for growers regarding the cleanup and marine debris prevention activities that are part of growers' environmental responsibilities. Monitoring of aquaculture sites was expanded and more fines were issued this year, for a total of $8600 in fines. The BC Shellfish Growers Association created the Shellfish Environmental Program (SHEP Label) to provide a labeling system that can help identify the growers that are more committed to environmental protection practices. With the support of the CVRD, a site will be built in Cumberland for the collection and recycling of end-of-life fishing gear.

Despite those successes, we have a number of obstacles ahead of us. The past year has been one of catastrophic changes caused by the climate crisis:

- Climate change effects, such as the heat wave that resulted in massive shellfish die-off, and record-breaking ocean temperatures
- Increasing storms, which may be partly at fault for the unprecedented levels of marine debris
- Two cases of potentially lethal septicemia were recorded on Denman Island after swimming in the ocean

The Committee identified two topics for potential research projects, but we have been unable to secure funding or a research team to carry them out.

The first would be research on clam bed netting. We want to do a comparative analysis of the pros and cons of growing clams with year-round netting, compared to partial-year netting, compared to no netting at all. If the option of no netting or partial netting proves to be financially viable, this would provide the required evidence to encourage a change in clam growing practices for local industry. Chris Pearce is looking for potential funders.

The second research project we would like to carry out has to do with the rope known as oyster blue. This would likely require some Research & Development to find an alternative rope cheap enough for growers to transition to, but effective enough that they will choose to use it over the long-run. The problem with oyster blue is not just that it enters the environment. Since oysters are grown on the rope itself, it becomes very difficult to separate the rope from the oyster shells, making rope recycling impossible and oyster shell recycling costly and less financially viable.

During general discussion it was suggested that the Steering Committee look for ways to document all the ideas that are being brought to or developed by the Alternative Practices Committee.

Discussion & Updates

Union Bay Boat Decommissioning Site Discussion

The Union Bay Site where boat decommissioning is taking place is a large lot composed of shoreline and uplands property that extends across the highway and includes areas of archaeological interest. It was licensed to be a log dump, with the uplands area used as a log sort. When the property stopped providing logging industry services, the owners approached Project Watershed to investigate the viability of ecological restoration of these areas. Project Watershed assessed the area and found that the seabed is covered in a layer of fibre that has made the area essentially dead ecologically. They found it would be difficult to replant eelgrass, but not impossible. It was identified as an important area suitable for restoration given its proximity to spawning grounds and streams. Old maps of herring spawning grounds confirm that herring used to spawn in the area where the industrial site functions today.

In order to use this site for boat decommissioning, it appears that the owners would have needed to apply for rezoning and a change to the special-use license that had previously allowed them to use the site as a log sort and dump. Studies on cumulative impacts and risk assessments have not been seen. As a result, the license has come under question and the CVRD will be hearing this case soon, so there is a process at play, and things are likely to change as that process plays out.

Hundreds of concerned citizens have already contacted local elected officials on this issue. Additional letters of concern can be sent to the CVRD and other levels of government.

The following draft motion was put on the floor:

> *Be it resolved that the Baynes Sound / Lambert Channel Ecosystem Forum write a letter to the CVRD expressing concerns about the environmental impact of boat decommissioning taking place in Union Bay, and encouraging the District to prohibit such activity unless it:*
> *a) is proven not to have significant negative environmental impacts on the marine environment (including impacts on the herring spawn, eelgrass, and forage fish);*
> *b) has all appropriate permits;*
> *c) is not in violation of any provincial, regional, or local policies, nor any First Nations rights, and;*
> *d) does not negatively impact the shellfish aquaculture industry in the region.*

A discussion regarding the pros and cons of submitting a letter to the CVRD (on behalf of the EcoForum as a whole) resulted in the decision to provide the above draft motion to members, so that individuals and member organizations could submit their own letters to the CVRD and other levels of government.

It was agreed that this is a multifaceted issue that is further complicated by jurisdictional overlaps and the fact that some members of the EcoForum may be involved in future decision-making regarding this issue. As such, it would not be appropriate for every member organization to sign onto a letter at this time. It will be left up to member organizations to decide for themselves.

Resources & Action Steps

Next Steps

- Todd Boychuk will act as the Lead for the ABAM Pilot Area Expression of Interest application which is due December 31st. There is some flexibility on the deadline for documentation and letters of support
- Fisheries and Oceans Canada will determine which aquaculture licenses fit within the map for the proposed Pilot Area and will send that information to Todd.
- Local Trustees will complete a letter of support through a Resolution Without Meeting
- Stuart McLean will reach out to Qualicum First Nation to see if they are willing to support the application, and will write a letter of support from his office.
- Nico Prins will draft a letter of support on behalf of the BCSGA
- Project Watershed will seek support from their Board to draft a letter
- The ADIMS Board will draft a letter of support as well
- Todd Boychuk will host zoom meeting on December 13 and 14 to work with other EcoForum members to finalize the ABAM application
- The Steering Committee will ensure an EcoForum Summary Report will be distributed to EcoForum members

Appendix A: Participants List

ORGANIZATION	NAMES
Facilitator, Alderhill Planning Inc.	Jessie Hemphill
Notetaker	Carly Bilney
Technical Support	Alec Willie
Comox Valley Regional District (CVRD)	Daniel Arbour
Regional District of Nanaimo (RDN)	Stuart McLean
Islands Trust (IT)	David Critchley, Laura Busheikin, Marnie Eggen
K'omoks First Nation (KFN)	Todd Boychuk, Candace Newman
Vancouver Island University (VIU)	Carl Butterworth
Simon Fraser University (SFU)	Leah Bendell
Fisheries & Oceans Canada	Jim Meldrum, Terri Sutherland, Chris Pearce, Chris Marrie, Kerra Shaw, Grace Runciman, Amber Neuman
BC Shellfish Growers Assn (BCSGA)	Nico Prins, Malcolm Cowan
Assn for Denman Island Marine Stewards (ADIMS)	Barb Mills, Dorrie Woodward, Liz Johnston, Lisa Pierce, Veronika Miralles Sanchez
Project Watershed	Bill Heath, Dan Bowen
Comox Valley Nature	David Innes
Alternative Practices Committee	Doug Wright