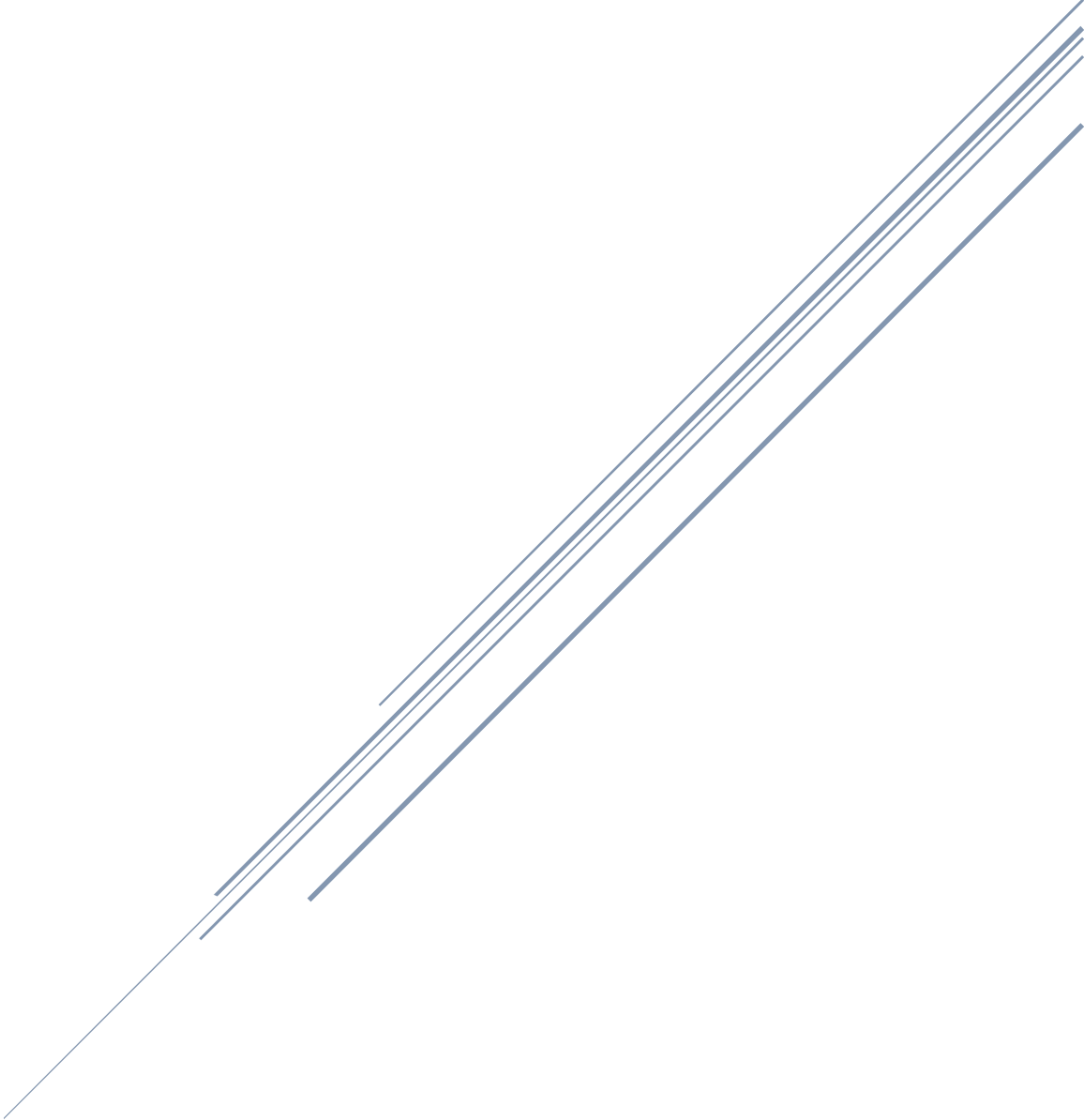


BAYNES SOUND LAMBERT CHANNEL ECOFORUM

Meeting Notes November 24,2023





INTRODUCTION

The purpose of the Baynes Sound/Lambert Channel Forum is to:

- bring together a broad and diverse group of people, with an interest in the long-term health of the Baynes Sound/Lambert Channel ecosystem,
- to discuss priority issues in depth and
- to collaboratively develop solutions for implementation across multiple governments, communities, and industries.



Baynes Sound Sunrise Photo by Gail Dugas

This work has been going on since 2018.

The concept was shaped by the understanding that, like the natural ecosystem itself, the human governance of Baynes Sound and Lambert Channel is complex. Pressures from increased human activity, 28 disconnected management plans and climate change are only a few of the issues that require attention. That's why the nature of this collaboration continues to evolve. The major emphasis has been to share knowledge and experience informing the best ways to support the health of the ecosystem.

The influence and wisdom of the K'omoks, Qualicum and Tla'amin Nations are integral to this process.

Forum participants are invited not as individuals, but as representatives of organizations or communities. They report that they appreciate the chance to meet others doing related work. They also say that it deepens their own work to learn about issues or perspectives not directly related to their fields but very much related to what is going on in Baynes Sound and Lambert Channel. For instance, organizations primarily concerned with seabirds have an opportunity to learn about shipbreaking. Or stream keeper groups might have an opportunity to hear about how norovirus plumes travel in these waters. Connections become more apparent.

It is not easy fighting the silo effect. Keeping the lines of communication open is a challenge when participant organizations – no matter how sincere in their care - have limited time to spare beyond their own responsibilities. Steering Committee members and volunteers work to keep this vision going mostly off the side of their desks.

Still the EcoForum's profile grows, nurtured by knowledge that we have in our midst a precious ecosystem that has supported life for millennia.



Morning Presentations Photo by Gail Dugas

Setting the Stage

On November 24, 2023 approximately 50 people showed up to participate in the EcoForum which was held at Vancouver Island University's Marine Field Station in Deep Bay. The theme of the day was data and information. Earlier forums had identified access to knowledge and data as a key factor in the stewardship and management of Baynes Sound and Lambert Channel.

Before the presentations, the morning began with an opportunity for participants to share their visions and concerns for the local marine ecosystem.

Nico Prins of the BCShellfish Growers Association spoke of ongoing concerns about how 70 per cent of shellfish leases did not have long terms renewals and were being renewed only from month to month. He spoke of the stress this created for many of the leaseholders who are small businesses operators. He reiterated concerns about contamination from human activity that

had been discussed at a previous forum. ([Here is a presentation](#) on this topic from a previous meeting.)

Marilynne Manning, vice-president of the [Concerned Citizens of Baynes Sound](#) cited the ongoing concerns of the community around the shipbreaking industry that is carrying on in the waters of Baynes Sound in the vicinity of Union Bay. Her passionate comments dealt with the health and environmental impacts of this work. She spoke about confusion over industry regulations included confusion about regulations the shipbreaking work being performed in the community; the confusion over regulations; and apathy among a portion of the community.

Presentations

Four presenters took part in the morning's proceedings.

The Salish Sea Initiative

Nina Harvey, a GIS analyst from DFO explained the mandate of the [Salish Sea Initiative](#). Designed to build capacity within First Nations to acquire and report baseline environmental data, the initiative is also meant to support:

- The tracking of environmental impacts and changes
- Assessment of cumulative environmental impact from human activity
- Determination of valued ecosystem components within the Salish Sea.

Harvey demonstrated the value and accessibility of a layered interactive map model. She explained that the project build phase concludes in 2025 with the material being handed over to 33 nations who will own it. In response to questions later in the morning, she said that cultural and historical data would be examples of sensitive data that some nations might not be appropriate for general accessibility. Currently only participating nations have access to the material. It will be up to individual nations to decide the extent of sharing this resource more widely.

The PowerPoint from the presentation can be found [here](#).

Strait of Georgia Data Centre

[The Strait of Georgia Data Centre](#) is a central hub for collecting and disseminating of marine data. Of particular interest to community-based participants was the prospect of web-based platform with open access to both data and documents. The data centre's GIS specialist, Ben Skinner explained that a map-based format allowed for spatial queries.

The data centre collects, curates and archives material from numerous sources including DFO (ie.herring spawn events), provincial sources, municipal governments (i.e. zoning), Pacific Salmon Foundation (i.e. water temperature).

There were some questions around the amount of data available for Baynes Sound and how this might be stepped up. Stiller explained that there is currently an outreach protocol that the centre follows to populate sections of their data base. Otherwise, the centre relies on organizations pro-actively contacting them.

The PowerPoint from the presentation can be found [here](#).

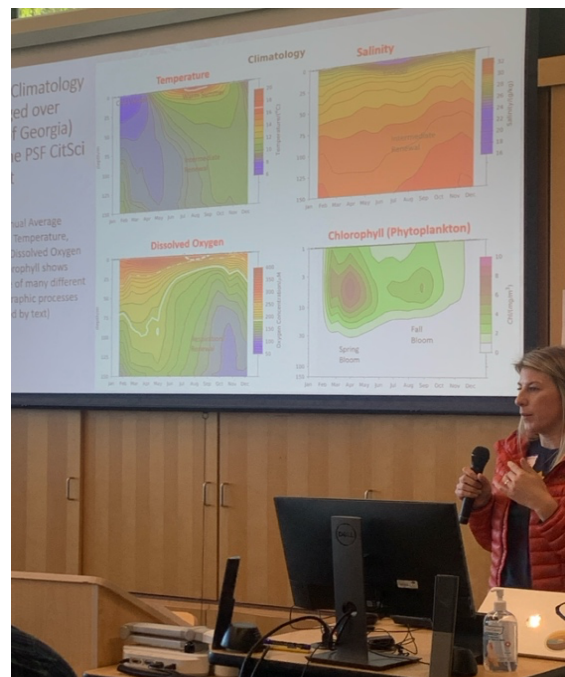
The Citizen Science Program

For the past 10 years, the [Citizen Science Program](#) has consistently contributed to the SoGDC. Nicole Frederikson, manager of the program explained how a small fleet of recreational vessels manned by their owners and a few other volunteers have populated databases that reflect what is happening around the Strait of Georgia.

EcoForum participants were intrigued to hear about the Baynes Sound/Lambert Channel team and there were several inquiries from people who were interested in either helping or hitching a ride to do observations for their own organizations (i.e. Seabirds).

Nicole and her husband Ryan organize the Baynes Sound patrol. It is one of 8 teams that collect data throughout the Strait of Georgia. There are 20 scheduled sample dates.

Tests are done for temperature, dissolved oxygen, chlorophyll among other factors. Water samples are taken to measure chlorophyll, zooplankton, and biotoxins. More information about the process and the results can be found in Nicole's presentation [here](#).



Citizen Science Primer photo by Gail Dugas

Phytoplankton, harmful algal blooms and PSF Citizen Science

Dr. Svetlana Esenkulova, a research biologist with the [Pacific Salmon Foundation](#), focused her presentation on an example of the kind of information that is gleaned from the Citizen Science project. She used the example of harmful algae blooms – a phenomenon that has persisted in the area for centuries and has caused closures annually since the 1940s.

Collection of samples have shown harmful algae and biotoxins concentrations at Baynes Sound generally lower than in other monitored areas of the Strait. However, those toxins are present and even at low concentrations they can cause:

- Poisoning – shellfish, mammals, humans
- Fish kills via toxigenic reaction, physical gill damage, hypoxia (insufficient levels of oxygen)
- Ecosystem disruption/alteration
-

Because of these and other factors, Dr. Esenkulova encouraged increased collaboration on monitoring. Her presentation can be found [here](#).

Data Needs

"You get what you measure. Measure the wrong thing and you get the wrong behaviors." - John H. Lingle. Data Management Consultant/University of Ohio

Following the morning presentations and a chance for participants to take a coffee break (and many hallway discussions) Dr. John Neilson delved deeper into the data topic. He led a panel discussion and audience question and answer session with the presenters.

"We don't know what we don't know," said one participant. This reflected a concern that although there are numerous studies, reports and tracking of many aspects of the marine ecosystem in Baynes Sound and Lambert Channel it is not reflected in a central hub. And it is hard to discern if and where data gaps exist.

During those this section of the EcoForum presenters spoke of wanting to have more access to data in the following areas:

- Shipbreaking
 - Shipbreaking activity
 - Industrial waste discharge
 - Heavy metals, inorganic contaminants, petrochemicals
- Pollution
 - Hormones
 - Endocrine disruptors
 - Microplastics
- Marine Mammals
 - Their impact on commercial and recreational fishing
 - Impact of commercial and residential development on them.
- Land-Coastal Connection / Integration
 - Sewage flows
 - Land use planning impacts.
 - Forestry. (it was noted that perhaps Forestry companies should be invited to participate)
- Sewage
 - BC CDC wants data on sewage from Feds. (Not currently accessible)
 - Fecal coliform counts
 - Norovirus (you can find a recent study by VIU's Dr. Tim Green here.)
- Sediment
 - Transport
 - Patterns of deposition, erosion
 - Particle size
- Birds
 - Data in map format
 - Overwinter population vs. year-round for all seabirds
 - It was noted that over 1% of the worldwide population rely on BSLC during the year.

- Interaction with shellfish and scouter ducks, impact of netting
- Effect of cannons from shellfish farms
- Comox Bird Area data to support the theory that protected space is key to bird survival.

In the past two meetings numerous participants suggested that the EcoForum support formation of a data-collecting working group. At its most basic, this could be a central hub containing links to data bases. The EcoForum steering committee has been exploring how this could be resourced.

ABAMS

Elysha Gordon, Senior Coordinator of the [DFO's Area-Based Aquaculture Management](#) initiative gave a short update on a two-year pilot designed to explore improved management methods. The goal is to support the long-term sustainability of aquatic ecosystems and address local social concerns, while supporting the long-term viability of aquaculture activities. She put several questions to participants that she hoped would help with their consultations. For example:

When considering the environmental aspects of the Baynes Sound/Lambert Channel:

- Can you create a list of priority species that we should be considering when making shellfish aquaculture decisions?
- Where are important habitats for priority species located in the Baynes Sound/Lambert Channel?
- Can the Forum recommend mitigation that can reduce interactions or harm to the priority species from the different types of aquaculture?
 - Can they coexist with deep-water culture but not beach, or is it the specific use of predator netting?
 - Can the Forum create maps with areas that would have unique management conditions to protect the priority species, and can they recommend what management conditions would be useful?

You can find her presentation [here](#).

ONGOING WORK

A main goal of the EcoForum has been to bring together representatives from First Nations, regional, provincial, and federal governments, local communities, industry, and researchers. This represents a diversity of values and priorities regarding the stewardship of Baynes Sound and Lambert Channel. During the facilitated afternoon session, participants spoke both from the floor and used a platform called Menti (using their phones to text their answers) to share information about their work and what stories they wanted to be able tell using more detailed data.

Here are some examples:

What data about Baynes Sound and Lambert Channel is needed to support decision making / telling your story?

Data regarding the prevalence of human sewage in Baynes Sound. 8 Top voted	Heavy metal testing 5	Ecological services value of shellfish in this habitat. 5	Heavy metal testing in shellfish, water, birds, environments. 5
Habitat surveys 4	Herring survival of larvae and health of the population. 4	pH measurement, water sampling over time. 4	Source tracking coliforms 3

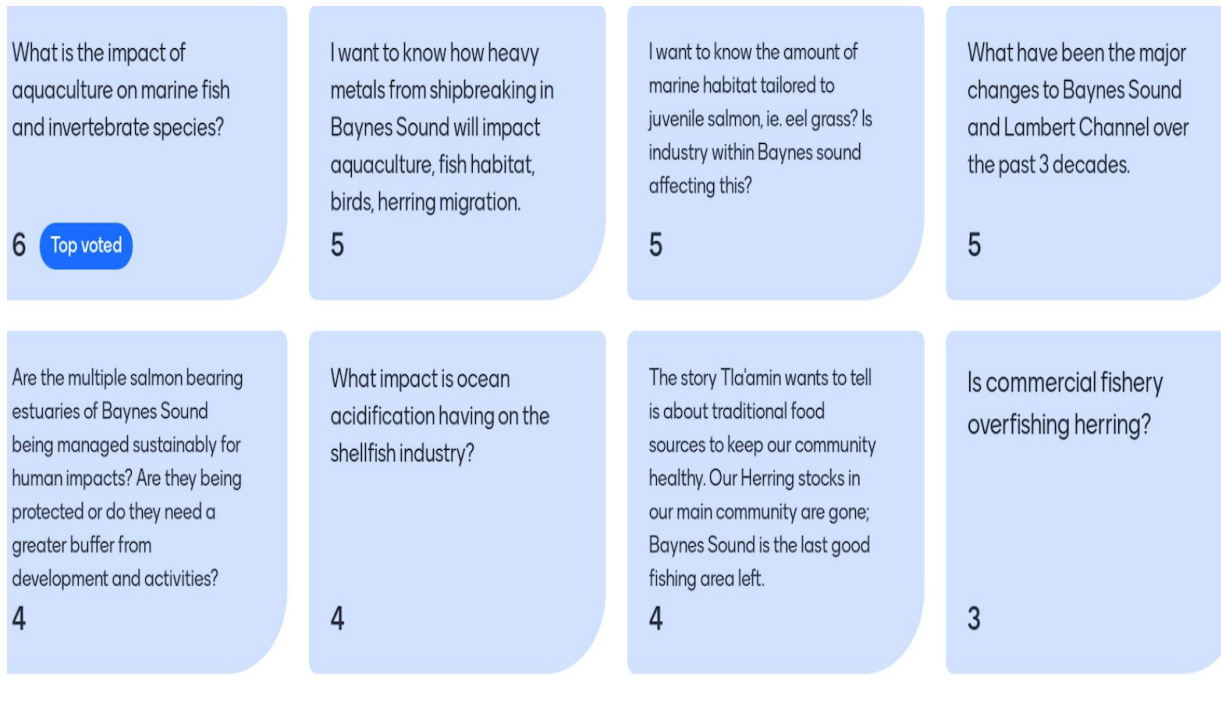


What data about Baynes Sound and Lambert Channel is needed to support decision making / telling your story?

More detailed analysis of sewage outfalls 3	Herring stock data over time, not only from BS/LC, but also from now-extinct spawning grounds, to indicate exhaustion trends. 3	Invasive species Distribution in BS 3	Long term distribution and behaviour data on birds in Bayne's Sound 2
Species population trends 2	Overwintering seaducks numbers historically and going forward. 2	Critical habitat for Herring (and other fish species) life cycles 2	Heavy metals + hydrocarbon levels in BS around ship breaking ops 2



And when specifically asked which of their questions they consider a priority the Menti responders answered:



POSSIBLE ACTION ITEMS

As a result of the day's discussions, participants identified numerous areas where there was work to be done. These were either identified as: 1) work their organization is/or would consider undertaking or, 2) something they felt an EcoForum working group could undertake. There were no specific commitments made.

- Shipbreaking
 - Advocacy around shipbreaking
- Data
 - Pollution data tracker
 - Contaminant application with Dr. Ross. (*more details needed*)
 - A project to look at meta data on all data sets.
 - State of Pacific Ocean Meeting – presented research report and findings. (*more details needed*)
- SSI
 - Check biotoxins (SSI map reports on this)
 - DFO virtual tours of the SSI database and maps
 - Need funding for continued data updates past 2025.
 - Desire to expand SSI into more First Nations (beyond the initial 33)
 - A new host for the maps if project funding is not renewed.
 - Increase public access to SSI.
 - Honour First Nations data sources that may come in a format other than data/numbers (e.g. history, storytelling)
- Citizen Science
 - Opportunity to add more sensors/tools to citizen science boats.
 - Potential opportunity to include volunteer bird sighters on citizen science boats (note boats are very small and stay out ~5 hours)
- Monitoring and enforcement
 - Understand regulatory jurisdiction and capacity.
 - Based on the results of data analysis the Eco forum (or members) may want to make recommendations to oversight bodies

NEXT STEPS

At the conclusion of the meeting, Co-Chair Carl Butterworth outlined the limited resources the EcoForum Steering Committee is working with and indicated there is ongoing work to find funding to continue this work. Currently, resources are limited to maintaining a small website and organizing in-person meetings twice a year.

A data working group comprised of one or two EcoForum Steering Committee members in addition to other volunteers is a possibility that is being explored. It would likely require the services of a graduate student to help compile information/data.



Busy Coffee Break photo by Gail Dugas

Based on the discussion, the EcoForum Steering Committee continues to meet and explore how it can foster increased collaboration among participant organizations. This could include a newsletter or other online updates between meetings and a Resource page on the website.

The theme for the next meeting (May 24, 2024) will be crafted from one of the issues identified participants at this meeting.

THANKS

The EcoForum depends on the work of the volunteer Steering Committee: Co-chairs Carl Butterworth (VIU) and Chris Pearce (DFO), Treasurer Nico Prins (BC Shellfish Growers), Secretary Dorrie Woodward (Assoc. of Denman Island Marine Stewards), Candace Newman (K'omoks First Nation), Connie Graham (Tla'amin Nation), Chief Michael Recalma (Qualicum First Nation), Sam Borthwick (Islands Trust), Caitlin Pierzchalski (Project Watershed). Special thanks to Dr. John Nielson for moderating the panel discussion and facilitator Janet Bonaguro (Thinkspace).

Financial and in-kind support in 2023 came from Comox Valley Regional District, Islands Trust, Lush, Vancouver Island University, BCShellfish Growers, Association of Denman Island Marine Stewards.

REGISTERED PARTICIPANTS

Carl Butterworth	EcoForum Co-Chair. Manager of VIU Deep Bay Marine Research Field Station	Steering Committee
Chris Pearce	EcoForum Co-Chair. Biologist, DFO.	Steering Committee
Nico Prins	EcoForum Treasurer. Exec Director BC Shellfish Growers Association	Steering Committee
Dorrie Woodward	EcoForum Secretary. Director Association of Denman Island Marine Stewards	Steering Committee
Sam Borthwick	EcoForum Steering Committee. Trustee. Denman Island Islands Trust	Steering Committee
Connie Graham	Territorial Stewardship Manager Tla'amin Nation	Steering Committee
John Neilson	Independent Biologist. Formerly DFO. Panel Moderator	Moderator
Ben Skinner	GIS Specialist, Marine Science Program Strait of Georgia Data Centre	Presenter
Nina Harvey	GIS Analyst. Salish Sea Initiative, Interactive Map.	Presenter
Svetlana Esenkulova	Svetlana Esenkulova, Biologist, Marine Science Program, Pacific Salmon Foundation.	Presenter
Nicole Frederickson	Program Manager Citizen Science Oceanography Program, Pacific Salmon Foundation	Presenter
Tim Green	Biologist, Vancouver Island University	
Amber Stroeder	Biology Instructor, North Island College Centre for Applied Research	
Leah Bendell	Professor of Marine Conservation and	

	Ecotoxicology, Simon Fraser University	
Brian Hunt	UBC Institute for Oceans and Fisheries	
Angela Hansen	BC Nature, IBA Program Asst provincial coordinator	
Liam Ragan	BC Nature, Coordinator, Key Biodiversity Areas	
James Mackenzie	Mars Wildlife Rescue	
Dave Innes	Comox Valley Nature	
Malcolm Cowan	BC Shellfish Growers Association Eelgrass Project	
Holly Clermont	First Nations Health Authority, We All Share Harvest Program	
Gordie McLellan	Mac's Oysters	
Peter Stockdill	Council of BC Yacht Clubs	
Bruce Evans	Director, Fanny Bay Harbour Authority	
Stephanie Lane	Project Watershed, Restoration and Research Lead	
Marisa Ai-Li	Coastal Douglas Fir Conservation Partnership, Program Coordinator	
Bill Heath	Biologist, Board Member, Project Watershed	
C Rea	Biologist, Board Member, Association of Denman Island Marine Stewards.	
Luise Hermanutz	Co-Chair, Denman Island Conservancy	
Theresa Clinton	Board Member, Herring Lead, Assoc. Of Denman Island Marine Stewards	
Marilynne Manning	VP, Concerned Citizen of Baynes Sound	
Jim Elliott	Wastewater Specialist	
Jacob Melville	Community Advisor Salmon Enhancement, DFO	
Christopher Marrie	Senior Biologist DFO, Campbell River	
Jake Schweigert	Pacific Biological Station, DFO Nanaimo	
Elysha Gordon	Sr. Aquaculture Mgmt Coordinator, ABAM Team	
Josh Winterhalt	Pacific Wild	
Anne Aubin	<u>Ministry Agriculture/Food Advisor, Seafood</u>	

Lesley Chapman	Ministry of Agriculture and Food, Industry Advisor	
Mark Biagi	Marine Division Manager Snuneymuxw First Nation	
Akhil Manne	Environmental Health Officer First Nations Health Authority	
Krissy Brown	Interim Coordinator, Guardian Watchmen K'omoks First Nation	
Jason Straka	Director, Cumberland Community Forest Society	
Alex Allen	Hornby Trustee, Islands Trust	
Rachael Sydenham	Referrals Coordinator, Tla'amin Nation	
Ken Newman	Advisory Committee Member, CVRD South Wastewater Sewer Extension	
Barb Thomson	Commodore, Comox Valley Yacht Club	
Emma Whitbread	DFO, ABAM	
Kent Giebelhaus	Incoming Commodore, Comox Valley Yacht Club	
Leslie Giebelhaus	Executive Officer, Cape Lazo Power and Sail Squadron	
Sarah Callies	Board Member, Pacific Wild	
Leon Fisher	Vice President, Morrison Creek Streamkeepers	
David Graham	Islands Trust, Denman Rep	

