BAYNES SOUND / LAMBERT CHANNEL ECOSYSTEM FORUM 2018

Summary Report

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Background information and a summary of the discussions that took place at the Baynes Sound / Lambert Channel Ecosystem Forum in Royston BC, 22-23 May 2018

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Purpose

The purpose of this report is to provide background information and a summary of the discussions that took place at the Baynes Sound / Lambert Channel Ecosystem Forum 2018. Please note that this is summary of the Forum discussions and that formal consensus was not sought for each point, although there was general agreement within the discussions.

Importance of the Baynes Sound / Lambert Channel Ecosystem

Baynes Sound and Lambert Channel—a thermally stratified inland sea, internationally recognized Important Bird Area and nationally designated Ecologically and Biologically Significant Marine Area—is a highly productive ecosystem, home to a regionally unique combination of diverse marine and coastal habitats.

Baynes Sound / Lambert Channel is the highest ranked cumulative spawning and rearing area for herring in Strait of Georgia ecoregion, producing one-third of all herring in BC's waters—positioning this area as a critical linchpin in terms of the ecosystem health of the BC Coast.

Seabirds, juvenile salmon, mollusks and other forage fish find shelter in the ecologically-distinct elements of Baynes Sound/ Lambert Channel. The Sound is a summer moulting area for sea ducks, and has globally and nationally 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 and Steller sea lions. The Sound has been consistently used as spawning grounds during herring spawn runs. The estuaries and riparian areas of the Sound provide spawning and rearing habitat for Coho, chum, coastal cutthroat trout and likely some steelhead. Fifteen salmon bearing streams drain into Baynes Sound/ 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 the waters of the Sound.

Baynes Sound / Lambert Channel Ecosystem Forum 2018

The Baynes Sound/ Lambert Channel Ecosystem Forum was jointly hosted by Islands Trust and World Wildlife Fund Canada (WWF) in Royston, BC, 22-23 May 2018. This two-day event brought together approximately forty participants from local, regional, provincial, federal and First Nations governments, as well as private sector and conservation group representatives. A complete list of participants can be found at Appendix A. The Forum was a focused and collaborative discussion of the challenges facing Baynes Sound and Lambert Channel and the solutions needed for a healthy marine ecosystem.

The Baynes Sound/ Lambert Channel Ecosystem Forum had the following three aims:

- Create an opportunity for collaborative dialogue amongst the diverse interests in the Baynes Sound / Lambert Channel ecosystem
- Share knowledge and experience that can inform solutions
- Identify ongoing collaborative actions and processes to support the health of the Baynes Sound / Lambert Channel ecosystem

Advisory Committee

In order to ensure the relevance and utility of the Baynes Sound/ Lambert Channel (BS/LC) Ecosystem Forum, WWF and Islands Trust invited a subset of First Nations and local governments as well as key stakeholders to form an Advisory Committee. Membership included local First Nations, local governments, community groups, Vancouver Island University, West Coast Environmental Law, as well as representatives from the shellfish aquaculture and herring industries. This Committee met three times after its formation in January 2018 and played a significant role in shaping the content and participation in the BS/LC Ecosystem Forum.

Responsibilities of the Advisory Committee included:

- Guiding development of the Forum structure, format, and content
- Identifying participants for attendance at the Forum

Approach to Dialogue

In order to deliver on the three aims listed above, the Ecosystem Forum was largely comprised of small-group dialogue focused on four main themes, with a fifth theme emerging for solutions dialogues:

- Nearshore/intertidal areas
- Offshore/open water areas
- Water quality
- Marine debris (challenges only; most participants joined nearshore/intertidal for solutions discussion)
- Governance (ad hoc addition for solutions discussion)

These themes emerged through preparatory discussions with Advisory Committee, but were intended to be an adaptable foundation for any additional key issues identified during the BS/LC Ecosystem Forum. Participants explored these themes according to their interests, first through a deep characterization of the challenges, and second by discussion of possible short- and long-term solutions. Following the challenges discussion, an additional discussion theme (Governance) was suggested by participants and became a part of the round of solutions-based dialogues. Plenary sessions were used to explore the interconnections and synergies between and among the themes. Experts were available and engaged throughout the various dialogues but did not make formal presentations because the focus of the BS/LC Ecosystem Forum was intentionally placed on collaborative dialogue. The complete agenda can be found at Appendix B.

Key Outcomes

Each of the theme groups and the plenary discussions were in agreement that improving the health of Baynes Sound / Lambert Channel is vital for the ecosystem and collectively agreed that maintaining the status quo will result in the continued ecological degradation of this important marine area, more conflict, and decreased benefits for all. Participants called for:

1. Continued dialogue regarding the health of the Baynes Sound ecosystem.
2. Continuation of the BS/LC Ecosystem Forum group through ongoing dialogues and to meet again relatively soon.

3. Creation of a shared vision to guide an integrated approach to managing human use in Baynes Sound / Lambert Channel.
4. Integration of various planning and management efforts currently underway and across multiple levels of government, so that ecosystem risks can be understood, avoided, and mitigated for all current and future human use.

Next Steps

Participants suggested that next steps include the investigation of ways to support continuation of BS/LC Ecosystem Forum group, including possibilities for secretariat support and a new governance body.

1. Investigate possibilities for leadership of the BS/LC Ecosystem Forum group provided by K'ómoks First Nation, supported by other governments and secretariat.
2. Gather as a group to create a common, shared vision that will guide and inspire collaborative actions.
3. Collaborate on actions to improve the health of the BS/LC Ecosystem.
4. Initiate collaborative research on understanding the challenges and improving the health of BS/LC ecosystem, including innovations in aquaculture methods.
5. Initiate shared space for gathering and sharing of data, information and knowledge.
6. Initiate research and discussion on concurrent law models to address responsibility overlap among Indigenous/federal/provincial laws related to the management of the BS/LC ecosystem.

Please contact Kim Dunn (kdunn@wwfcanada.org) if you have questions or comments about this report.

Summary of Forum Discussions

This section of the report provides summary notes of each discussion, by theme. For ease of organization, notes from plenary sessions have been incorporated into each theme section as appropriate. Please note that these notes are a summary record of each dialogue and do not in any way represent consensus from participants. Consensus, in particular regarding the characterization of each challenge, was not sought and was not an aim of the Forum. Divergent views under each theme were frequently an element of these discussions, and as such a variety of views are reflected in this section of the report.

Theme 1: Subtidal/Open Water

Describe the challenges facing Baynes Sound / Lambert Channel ecosystem

1. Lack of common vision and plan amongst FN, federal, provincial, regional and local governments and stakeholders. How to prioritize without vision/plan?
    - Different perspectives of impacts and trade-offs
    - How do we motivate people to want to change/move to a common vision/build trust?
    - Will the plan and commitment to implementation be binding for authorities?
2. Herring fishery impacts of ecosystem including: eel grass beds, spawning, aquaculture, roe, ecotourism
3. Lack of understanding of what is the baseline of a healthy functioning ecosystem for Baynes Sound / Lambert Channel ecosystem (now? pre-colonisation?)
4. What are the cumulative ecosystem impacts? How to mitigate? Proactive mitigation
5. Data and knowledge gaps
    - Do we have data to look at for long term issues?
    - Challenges with sharing data and trustworthiness of data from each other
    - How to gather data across boundaries and agencies/groups with openness?
    - How do we integrate data and knowledge at ecosystem level to support governance? E.g. fish and birds
    - Lots of data – but not central area to understand why of data
6. Governance gaps; community level feels disconnected from government (e.g. herring) – how to involve general public (real commitment and intent) to understand community priorities?

Are the challenges being addressed now, by whom?

1. Challenges are not currently being addressed by organisations: don't have mandates, or common plan – being addressed informally on an issue basis rather than a geographic/ecosystem
2. K'ómoks First Nation may assert control over Baynes Sound for protection

What are the sticking points? What may be preventing successful resolution?

1. Mistrust between parties/individuals being able to see the bigger picture
2. Lack of collaboration between parties; lack of common vision – many people are not comfortable with the industrialization of natural areas

3. Governance scales and gaps in jurisdiction: local to coast-wide; ecosystem vs government boundaries; competing priorities and resources; no entity to lead collaboration for particular area
4. Information/data differs on different scales: large data gaps; projects happening but not integrated; data integrity

What would happen if the challenge was not addressed?

1. Environmental impacts worsen/more confrontation/more conflict
2. Things will get pushed out (i.e. shellfish farms, herring fish)
3. Things will be ruined for everybody, even residential
4. Potentially existing problems could be exacerbated
5. Ecosystem and industry will suffer

What does a 'good outcome' look like?

1. Having a group or process in place to connect all the divergent, but common interests and break down barriers to bring everyone together in collaborative communication
    - Multiple user groups consent to sustainable use – not impacting others
    - Common vision created
2. A place to bring together all the research/information/data for comparison/analysis and to address data/understanding gaps:
    - Conduct research into areas that previously had herring and now do not
    - Understand cumulative impacts
    - Establish baseline data: pre-colonization
    - DFO projection – Prediction models accurate (1980's stock models did not work for all areas but used until 2018)
    - Ecosystem health/processes are well understood
    - Fisheries and Oceans Canada (DFO) – research – shift from fisheries to ecosystem
    - Bring together DFO data with other sources
        - Herring: Within the Salish Sea DFO believes to be same stock, whereas Tony Becher, UBC – believes herring return to home streams
3. Healthy, thriving herring habitat/populations and bird habitat/populations (rigorously monitored and biologically assessed to prevent loss of species)
    - Look at broader area – South Island beyond Baynes Sound – less herring in Areas 15/17
    - Or smaller area/ smaller groups
4. Moratorium on herring fishery in place until better understanding (reduce sein herring fishery)
5. DFO priorities (#1 Core conservation; #2 Fisheries)
    - Take action at upper stock areas
    - 20% rarely applied – choose not to for various reasons

Who is involved presently in this challenge (directly or indirectly)?

1. Governments, including First Nations

- First Nations
- Fisheries and Oceans Canada (DFO): Resource management; Aquaculture Enviro Operations; Enforcement; Oceans; Fisheries Protection; Habitat Assessment
- Environment Canada (closures)
- Provincial government – Marine Plan Partnership for the North Pacific Coast (MaPP), networks
- Local and regional governments

2. BC Shellfish Grower's Association; plus other aquaculture operators (DFO has database of all)
3. Academia: Vancouver Island University (VIU); Simon Fraser University (SFU); University of British Columbia (UBC)
4. Underwater harvesters
5. Herring Industry Advisory Board
6. Conservation groups
7. Upland residents
8. Marinas

Who else needs to be involved in the solution? In addition to list above:

1. Agricultural and upland (development) jurisdiction
2. Marina management
3. Transport Canada
4. Individuals with long-term knowledge on the area in question
5. Politicians

Are there some simple actions that could happen in the next 1-2 years?

1. Group or process to create a common vision: connect action to intention
    - Expand diversity/end goals
    - Do it soon to build on momentum
    - Connect vision to governance
    - Vision to inspire and guide plan

2. Gather all existing data and information; who knows what; known/unknown
    - Identify research that has been done
    - Communications in place to keep all individuals up to date and informed
    - Data gaps identified and research to address gaps is beginning
    - Understand herring/forage fish needs

3. DFO builds on core conservation objective that is in place while also taking into consideration sustainable fisheries
    - Reshaping of models on biomass vs productivity – already in motion
    - Need objectives to test against (measurable objectives)
    - Indication of what decision can be made; reality check; government aspirations to policy

- Build trust with community – slow to react to losses

What actions might be needed for the longer term?

1. Continuing work from vision/process into plan and implementation: focus on positive, energy to drive collaborative process
2. Recognition of the authority of the Baynes Sound/ Lambert Channel Ecosystem Forum as a collective group on decision making (may be challenging to people and organisations but continue)
3. Funding to keep collaborative organisation active/ continuation of process
4. Recognition of healthy ecosystem = healthy industry
5. Take action for children – fearful if no action – including climate change, microplastics

Will any of these actions have co-benefits for other identified challenges?

1. This action to develop a collaborative group, which will gather/share information and share decision making, will benefit many separate problems
2. Energy to drive process
3. Create hope for children – climate change, microplastics

Theme 2: Shore and Nearshore

Describe the challenge

1. Aquaculture issues – potential safety to citizens and wildlife: entanglement in predator nets; lead lines breaking downs with lead balls consumed by birds; rebar erosion to points; loss of gear in storms; *Right To Farm* legislation insulates aquaculture bad practices (gear, noise, what is "nuisance."
2. Jurisdiction confusion/overlap/consideration of climate change
    - DFO ability to respond impaired by lack of staff/resources
    - Limited jurisdictions (authorities) of local government – for example Islands Trust with land-use planning function of zoning and conditions (zone/no zone) has a lack of authority to regulate aquaculture methods (i.e. no predator nets) but Islands Trust is concerned about environment; thirty years ago Islands Trust supported aquaculture, but not in existing industrial form; thought upland owners would be involved in approvals
    - Expectations: Waterfront viewscape, 20 years ago vs shellfish operator bought 20 years ago
    - First Nations jurisdiction unclear
    - Province not on the same page: conditions of licences are too broad.
3. Aquaculture reaching balance between industry and community – solutions of research? Changes to rafts? Debris?
4. Maintenance of intertidal forage fish habitats and subtidal areas used to spawn herring: eel grass and other substrates that herring spawn on; spartina removal/removal of invasive species
5. Many sources of pollution: sewage treatment systems, septic treatment, surface run (urbanised and agriculture); septic from vessels; log storage; dredging – ports; sonar; forestry (silt and pesticides in runoff); spills (gas, oil, hydraulic fluid); creosote pilings/zincs; historical industry in Union Bay (coal, cadmium); garbage dumping
6. Geoduck aquaculture potential impacts: PVC pipes; predator netting; residents' safety and community values
7. Ecosystem challenges: loss of habitat; changes in shoreline around Comox Estuary; balance in species diversity; poor water quality may be affecting marine species health and recreational use; poor management on properties – a need for education; shoreline hardening by waterfront residents

Who is involved in this challenge (directly or indirectly)?

1. DFO: licences; lack of the ability to respond/enforce
2. First Nations governments: must be involved in management, monitoring, documenting change
3. Islands Trust: lack of authority with aquaculture practices; has available forage fish and eel grass maps and development guidelines
4. Regional Districts: development guidelines, noise
5. Aquaculture – BS Shellfish Growers Association; individual operators
6. Deep Bay Field Station (VIU) – research and initiatives

7. BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – tenures (First come/first served); anything below low tide – provincial issue with zoning; *Right To Farm* legislation (aquaculture)
8. Underwater Harvestors Association (wild geoduck industry)
9. Environment Canada
10. Public and residents
11. Industry: tourism, shellfish/fish, forestry, mining
12. Schools

Is the challenge being addressed now, by whom?

1. Hakai, VIU research on water quality
2. Deep Bay VIU – aquaculture solutions including rafts
3. First Nations and local governments are working on sewage/septic issues
4. First Nations – habitat restoration: Guardians
5. Safety – a challenge that is not being addressed
6. Shellfish Management Aquaculture Committee (administered by DFO)
7. Islands Trust various efforts for protection of intertidal habitats
8. Association of Denman Island Marine Stewards
9. Conservancy Hornby Island
10. Comox Valley Regional District

Who needs to be involved in the solutions that are not in the above list?

1. DFO – upper management – Pacific Regional manager
    - Enforcement staff (C & P) – advocates for higher levels
    - Need more management – Ottawa reps
2. BC Ministry of Environment (MaPP, marine planning in general)
3. Farm Complaints Review Board

What are the sticking points? What may be preventing successful resolution?

1. Money – funding for solutions
2. Willingness – someone needs to be willing to lead
3. Monitoring – lack of baseline data
4. Enforcement – need enforcement of rules with appropriate consequences
5. Lack of research/information
6. Lack of education
7. Lack of visibility of the problem
8. Safety – barriers to solutions with industry
9. Authority
10. Role of First Nations in management
11. Jurisdiction over aquaculture: terms and conditions in the tenure; not sure who runs it or will be part of the solutions

12. Farm Practices Review Board: best practises into a regulatory framework
13. Geoducks – decision makers- not open to input
14. Maintenance of Intertidal zone: residents not wanting to be seen as making a complaint; hard to restore; shoreline hardening especially with sea level rises; lack of marine protection areas
15. Lack of unbiased research – most research is industry driven
16. Aquaculture industry operator does not have to belong to the BCSGA

What would happen if the challenge was not addressed?

1. What we value will disappear
2. Ecosystem health, social license will get worse
3. Barriers to reconciliation
4. Lack of coordination between agencies with jurisdiction and interest may lead to duplication of activity, fractured initiatives, and lack of forward progress.
5. Good work that has been done does not move forward.
6. If we don't have a standard for sea water quality, we will have a hard time maintaining or improving quality.
7. Without adequate research we won't understand the interplay between complex variables.
8. Uncertainty
9. A lot of unhappy people and loss of forage fish because of cumulative destruction of the environment and loss of spawning habitat -- loss of herring.
10. More camps become separate the longer the challenge/issue resolution will become challenging
11. Lack of clarity – gaps – not knowing what they are

What does a 'good outcome' look like?

1. No complaints about aquaculture industry – limited/reduced irritants/complaints and conflicts between residents and aquaculture industry.
    - Ways to accomplish include: reduce noise by starting at a reasonable hour; establishing designated areas for power washing and waste areas/clean up areas; improve best practices options rebar and netting; improve aesthetics, getting rid of avoidable nuisances; tagging waste/infrastructure

2. Collaborative and constructive conversations are supported amongst: First Nations, aquaculture industry and association, communities, DFO, Islands Trust, CVRD, and others. Hearing and working on solutions as a collective – exchanges of information – avoid polarization

3. DFO able to manage complaints and enforcement
    - Mapping and policy for cool/hot spots
    - Good information flow – better communication – horizontal approach – citizens/governance
        - Avoid putting islanders in the position of being complainers
        - People complaining and not hearing back – placing an annual report and meetings with DFO to discuss the issues (triaging complaints)

- Better complaints process – clarity with who to call

4. Clear research and development for aquaculture best practices involving industry, VIU Research Centre, Deep Bay and individuals. Looking for solutions/answers with applied research

5. Solving the multiple jurisdictions issue
    - Better complaints meeting process
    - Cool, medium, hot spots – identify those areas of high sensitivity and have more sensitivity/provide education and support within it (mapping and policy)
    - Pilot project – to test solutions
    - DFO provides recognition of the importance of BS/LC for shellfish with adequate staff and funding resources; clarity regarding staffing – defining clear roles and responsibilities; officers and assessment staff to check and enforce
    - Shellfish industry acknowledges environmental values and community expectations
    - Achieving balance industry and community – balance of healthy seafood production with views
    - Development and discussion of site-specific licence conditions or specific hot spots
    - Finding ways to bring into all into compliance (not just specific members) involve all who conduct aquaculture

6. Baynes Sound pilot project created: create/trial best management practices

7. Good communication between DFO and tenures – reminders or education process to lead to a solution: conditions of licences; create better understanding of how licensing, regulation and conditions occur

Are there some simple actions that could happen in the next 1-2 years?

1. Create shared vision: Group or process – visioning process that would lead to longer term actions
2. Action towards creating an on-going group/forum. Forums like this reduce conflicts – getting to the values and allow us to reach a resolution
    - Not to ease momentum after this meeting – pursuing actions
    - Has resources rather than volunteer based to avoid burn out
    - Frequency of meetings – semi-annual or annual
    - Presentations from other initiatives (Howe Sound and Saanich Inlet) on how they work, relationships and information relations and information being presented
    - Gather information on how agencies make a group like this happen
    - What are the biggest things we need to tackle?
    - Identify possible organizational sponsors i.e. Islands Trust; CVRD; partnerships; WWF, MP/MLA; DFO
    - Hold regular meetings – information sharing, conflict resolution, build up of knowledge of who to talk to/where to go with information
    - Research details building on relationships from BC/LC Ecosystem Forum and create: terms of reference, membership, budget, steps for getting organized

- Share information and identify research groups
- Need someone to keep championing this idea -all need to get together to work together (government involvement – help lead)
- Central place for data and knowledge to be gathered to interpret and use
    - Acknowledge DFO has a lot of data – easier accessibility
- Look at PEI and their experiences (marine use planning)

3. Explore governance – perhaps political leadership from K'ómoks First Nation and other First Nations
    - Concurrent models – 3 governing bodies – First Nations/federal/provincial
    - Concurrent law model – covenant as part of treaty
        - Agreements
        - Different levels of government with different levels of authority that overlap
        - Direct coordination of information and processes
        - Very progressive
4. DFO – shellfish AMAC workshop
    - Environmental performance
    - Outline all the jurisdictions/provide clarity
    - Report out to local areas
    - DFO lead – normal meetings like this forum
5. Explore jurisdictional possibilities ongoing forum
    - Government as ex-officio
    - Role of First Nations governments, especially KFN; First Nations Guardians (partnering with DFO)
    - Share decision making and have everyone contribute
    - Memberships/who is involved? First Nations, federal/provincial governments, Islands Trust, CVRD, recreation users, conservancies, NGOs, shellfish industry, fisheries
6. Consider creating local version of standard aquaculture license
    - If everyone agrees, DFO can create BS/LC specific version that is business friendly and gain approval from Minister
7. Explore research: what is the problem we are solving? What studies need to be done? i.e. environmentally friendly options (e.g. predator nets; do they work? What are the other options?)
    - R&D funding? Baynes Sound industry members to pay a tax?
8. Multi-faceted approach to aquaculture debris
    - Have someone (opportunity) – picking up debris – with industry
    - Have university student for the summer to do analysis on the debris (what needs to be cleaned, costs, how to dispose (recycle) of it all; research to see pros and cons of different systems
    - Paying extra (problem that it will be hard to sell): cost benefit analysis including analysis of costs of debris and infrastructure loss
    - Streamline approach – endorsed by DFO; makes it easier to be in business
    - Long-term outcomes are of interest to larger shellfish industry

9. Initiate pilot project re best management practices as well as mapping and identification of high value areas of foreshore – aesthetic, habitat, archeology; try out no rebar, no predator nets, do monitoring

What actions might be needed for the longer term?

1. On-going discussion forum – meeting on a regular basis; budget in place for staff to keep the forum running – continuation of discussions/actions
2. Defining metrics to monitor the "poop index" (quarterly report on fecal coliform count; better understanding of trends; flag sites for action; identify what can be done locally to address problems)
3. Identify existing sources of data and information; create collective database; identify and address data gaps
4. Communities collaborate with BCSGA to celebrate the shellfish industries, to break down the barriers, and to build positive relationships between industry and island residents: making industry a part of the culture
5. Review of tenure policy and processes: homeowners given right of first refusal if tenure is for sale? (if homeowners aware of what they are buying into); conservation groups buying tenures?: Diligent use of provision (province); agreement to move expired tenures to a less sensitive site
6. Explore development of Marine use plan
7. Healthy herring and healthy ecosystems – a long-term goal – all data and research regarding these things can be tackled by this forum

Will any of these actions have co-benefits for other identified challenges?

1. Potential actions and interactions
2. Communication

Theme 3: Water Quality

Describe the challenge

1. Vessel discharges: cruise ship, fishing boats, pleasure craft
2. Septic/sewage/storm drains (land) treating sewage is a challenge (microplastics, medications)
3. We don't know enough (baseline data)
4. How to best monitor best monitor/research/study
5. Jurisdiction over water quality (something the K'ómoks First Nation is asking for)
6. Mountains/estuaries/marine = all interconnected!
7. Erosion of waterfront
8. Overfishing in small areas (unlike sustainable management by First Nations)
9. Destruction of habitat
10. Balance
11. Food chain is contaminated as it moved up the trophic levels (e.g. Orcas get sick because they eat contaminated seals)
12. Effect of recreation use
13. Climate change impacts
14. Erosion of waterfront
15. Balance
16. Sharing resources
17. What is "normal" water quality?
18. Climate change (temperature, acidification)
19. History of river and water quality/pattern approx. 500 years ago
20. Loss of biodiversity (crab, bullheads, seaweed etc.)
21. First Nations can't exercise their rights when, for example, it is dangerous/unhealthy to live off this land/sea
22. Point spills
23. Surface runoff
24. Forestry pesticide siltation
25. Agricultural waste/pesticide
26. Marinas
27. Creosote pilings (zines)
28. Historical industrial activity
29. Dredging
30. Garbage dumping
31. Log storage

Who is involved in this challenge (directly or indirectly)?

1. Oceanwise (Dr. Peter Ross)
2. Deep Bay Marine Station (VIU)
3. Hakai Institute
4. K'ómoks First Nation
5. Stewardship groups
6. Local government (policy and land use/development)
7. Provincial government (riparian areas)
8. Federal government
9. General public and residents (e.g. their desire to pay for solutions to septic challenges)

10. Industry (shellfish aquaculture, fishing, mills, tourism, forestry)
11. Outreach to students in schools (elementary, high school)
12. Education/school boards

Is the challenge being addressed now, by whom?

1. Hakai Institute is monitoring water quality (measure dissolved O_2, salinity, temperature, pH, trace metals, trace minerals)
2. Archaeological records are being assessed
3. Deep Bay (VIU) slowly establishing baseline data and making it available for others to use
4. Membrane bioreactor to address microplastics of sewage
5. K'ómoks First Nation has a Marine Use Plan and Guardians working on own initiatives and with local stewardship groups
6. Oceanwise establishing baseline data
7. Regional District(s) looking for alternative solutions for sewage, including education
8. Islands Trust involved in advocacy directed towards other levels of government, and Denman/Hornby Island have policies in their Official Community Plans

What are the sticking points? What may be preventing successful resolution?

1. Lack of education/awareness in the general public of the issues that currently exist
2. Lack of regulation and rules for people to be required to obey (how to complain if nobody sees the rules being broken – lack of visibility/enforcement)
3. Clash of values/willingness – this is my home and I want to do everything I can to protect it; have to want responsibility: individual consequences vs. collective consequences
4. Lack of funding (at all government levels); hard to get funding for initiatives (chances are much better if local groups partner with K'ómoks Guardians)
5. Lack of pump-out locations (free)
6. Lack of monitoring/baseline information
7. Sewage plants currently don't work to protect water quality

What would happen if the challenge was not addressed?

1. Things likely would only get worse
2. Fracturing of integrity/authority (competing views/perspectives)
3. Risk that things will get to a point where they are irreversible
4. There will be no checks to keep things in balance
5. Uncertainty

What does a 'good outcome' look like?

1. Birds, fish and other species/ecosystems come back to a more sustainable level
2. Healthier condition of ecosystems
3. Develop this area for recreation (ecotourism)
4. Restoration of destroyed/damaged areas

5. People to be held accountable for their actions that are negatively affecting water quality
6. All septic systems are in working order or property treated sewage that isn't being pumped directly into the ocean
7. Vessel discharge rules are enforced (threat of getting caught)
8. A central place for people to access the data that exists (e.g. one person from each organization that comes together to create a monthly newsletter or similar)
9. For the public to value water quality on the same level as other environmental concerns
10. Treating sewage for more than what is currently used; for viruses (not pumped into the ocean)
11. Baseline monitoring for water quality done by community engagement i.e. locals collecting data and reporting observations
12. Dedicated team/research to analyse conditions/trends in water quality in Baynes Sound
    - Sharing information between multiple organizations
    - One local area where anyone can access available data on water quality

Who needs to be involved in the solution?

1. Transport Canada (enforce vessel discharge rules; regulate vessel transport)
2. Health authorities
3. Senior levels of government, including First Nations
4. First Nations and public – data collection and reporting on water quality issues to DFO and other
5. Municipalities (governance)
6. Provincial government, including Ministry of Environment – need higher government control to enforce better sewage treatment
7. Health Canada – hazards with sewage in water
8. Need a team – have a conference with people from all involved parties: Transport Canada, municipalities, the province, Health Canada, high level government (to have some authority); Baynes Sound round table

Are there some simple actions that could happen in the next 1-2 years?

1. Senior levels of government need to take action by creating legislation and regulations for lower levels of government to comply with
    - Approved systems that are affordable alternatives to treat sewage on lots instead of septic e.g. composting toilets, greywater treatment
2. Media involvement to spread awareness
3. Current monitoring project (working with Hakai, VIU, and Oceans network Canada) to be improved to monitor more parameters
4. Media/public education on the scale of the problem of sewage in the water
    - Correct information, not misinformation
    - Education for "older" residents, people who have always had septic and think it works great
    - Education of children with respect to values (environmental, social etc.)
    - Show residents visually how bad septic is (dye that shows where water flushed from the toilet goes)

- Education for newcomers

5. Coalition (forum/team etc.) of a sort with people invested in the sewage issue that can focus on and solve these problems
    - A team to organize and bring people's attention to this (also a long term solution)
    - Could get grants, funding, and resources to fix this problem
6. Communication between communities and municipalities that are involved with this issue – Union Bay, Royston, Cumberland etc.
7. Investigating and implementing environmentally beneficial solutions, i.e. getting rid of septic, without referendum
8. Research and raise awareness for health concerns from sewage leakages
9. Swimming advisory based on level of fecal coliforms
    - Increase public awareness of the problem – local government would be responsible? Determine who should be responsibility for monitoring this – it should be those responsible for switching from septic to sewage
10. A more organized effort:
    - Public education and awareness
    - Government regulations and legislation
    - Adequate funding from various sources
    - Enforcement of the rules

What actions might be needed for the longer term?

1. Government/politicians who champion sewage treatment; implementing monitoring for septic systems already in place
2. Government implements regulation – enforcement of regulation, implement fines
3. Public education is also a long-term issue; including a program for educating young children who will inform their parents
4. Measurements are being taken on fecal matter in Baynes Sound, but need to share information and have a goal for how to use it to solve water quality problems
5. Fully understanding how climate change and its effects on animals/fish/ecosystem – more research
6. Implementation and enforcement of water usage regulations
    - Better water storage
    - Meters to prevent over usage
7. 3 step process for dealing with sewage:
    - Put together a coalition of people to organize/champion/get funding for dealing with sewage problems
    - Put together and analyze the available data on fecal matter in Baynes Sound
    - Put together cohesive advertising/media/education to show people how important this problem is – all levels of government, stakeholders etc. need to have consistent information

Will any of these actions have co-benefits for other identified challenges?

1. Monitoring water quality and having a centre with open information will benefit everyone in Baynes Sound: aquaculture, residents, DFO, etc.
2. Treating and cleaning the water to improve quality will result in indirect removal of debris such as microplastics

Theme 4: Debris

Note that this theme was discussed during the challenges portion of the workshop only; participants chose to join other theme discussions for the solutions discussions.

Describe the challenge

1. Lack of accountability for garbage waste
2. Cross-jurisdiction (whose waste is going where, and who is responsible for which piece of land)
    - Land tenure vs licence
    - Whether individuals will take responsibility for their errant waste
    - Regulations/licences/conditions surrounding the waste within or leaving the tenure
        - Not much upkeep of making sure individuals follow regulations
3. Many contributors to marine debris
    - How to determine who is contributing the most – shellfish industry appears to be the biggest contributor but cannot identify specifically who made what debris
4. Extensive marine debris on the bottom of the ocean, where we don't see
5. Aquaculture debris
    - No data collection for how much equipment is used and how much is lost (not feasible give the labour and funding costs)
    - Current equipment – trays, exposed Styrofoam, etc. increase likelihood of marine debris
    - Types of shellfish industry garbage: trays, net of every variety, rebar, fences
    - Cost of recovery of lost equipment
    - Maintenance of predator nets/ held by rebar – are they effective? Potential to harm wildlife and humans and released as debris

Who is involved in this challenge (directly or indirectly)?

1. Industry – the most involved as they are the biggest contributors
    - Island Scallop, Mac Oyster, Taylor Farms, and many "mom and pop" small shops
2. People living on the coast
3. Every person on the planet either produces, uses, or is impacted by plastic and plastic is the main marine debris

Is the challenge being addressed now, by whom?

1. The trays in oyster farming – use electric fence to deter sea lions, or lash trays in a way to deter sea lions from using your raft
2. General public – cleaning up
3. Industry – practical innovation
4. NGOs
5. Academia – research into solutions
6. Several people involved: industry, NGOs, academia/universities, the general public, DFO
    - Reacting – not effectively addressing

What are the sticking points? What may be preventing successful resolution?

1. Enforcement of regulation
2. Difficulty in tagging equipment
    - Increased cost of identification and less convenience for plastic producers
3. Expense of alternative is a deterrent
4. Attitude – whether people are aware of or care about reducing debris
5. Money – both investing in better equipment and clearing up waste
6. Cannot eliminate plastic, it is too useful (but can use better/less plastic by improving equipment)
    - Lack of innovation – use of the best alternative now may prove to be bad in the future
    - Government not approving innovations

What would happen if the challenge was not addressed?

- Social licence goes down – people no longer accept the shellfish industry
- A huge pile of garbage in the ocean

Theme 5: Governance

Note that this theme was added ad hoc to the solutions portion of the discussion, at the suggestion of participants.

What does a 'good outcome' look like?

1. Secretariat to keep it alive, e.g. Baynes Sound / Lambert Channel Round Table
    - Councillor Quocksister will follow-up with K'ómoks First Nation members/leadership if possible to align with their process
    - Frequency – from First Nations perspective not too many meetings
    - Requires champion
    - All governments and stakeholders as a unit
    - K'ómoks First Nation's (KFN) take political leadership but need other entity to be the secretariat
2. K'ómoks First Nation could seek a broader adoption of their marine use (MU) plan (with some updates- being revisited in the near future) – attract funding
    - Invitation to others (CVRD, Islands Trust etc.) into a revision process – possible alignment with other plans
    - Consent – part of treaty language (late-stage draft) for K'ómoks First Nation – could have implications for implementation of MU plan
    - Add missing/complimentary pieces to K'ómoks plan
3. First Nations inherent responsibility for stewardship complimentary but support needed
    - Additional recognition of First Nations use plans and authority (validation from federal/provincial government)
    - Islands Trust – possibility to harmonize with K'ómoks First Nation and other local use plans (First Nations leadership, values)
4. (DFO) Discussion of advantages and disadvantages of MaPP/Pacific North Coast Integrated Management Area (PNCIMA) governance models (advisory committee power; cooperative management/development of plan
    - Does not work for K'ómoks First Nation – has already been through MaPP – don't repeat work
        - Federal government can't assume North Coast approach works for all First Nations (even regionally)
    - Also scale issues – is a MaPP/PNCIMA-type initiative possible in Baynes Sound / Lambert Channel?
    - Federal government leadership appropriate/best
    - Challenge in implementation: need for local enforcement at the local level
5. More certainty/clarity/accountability re: various jurisdictional responsibilities
    - Could feed into joint solutions
6. Multiple marine use plans vs single plan
    - Multiple plan ok as long as not conflicting
    - Process/inclusion is key
    - Strength in collective problem solving

7. Process model that is replicable/scalable/adaptable
8. Baseline question – to what standard/level are we managing/governing?
    - Finding balance is key

Are there some simple actions that could happen in the next 1-2 years?

1. Learning exchange re K'ómoks First Nation and other treaties
    - K'ómoks First Nation Marine Use Plan – with all government stakeholders
    - Input from stakeholders/government in review of KFN marine use plan (timeline of review TBD – schedule)
2. Lessons from the Howe Sound/Saanich Inlet/Cowichan River joint management boards
    - What/how?
    - Part of learning exchange with K'ómoks First Nation
    - Salish Sea? Other area of similar scale?
        - SFU 2014 conference core studies, including international examples
    - Governments to promote collaborative decision making model (does not currently include local government)
3. BS/LC Ecosystem Forum/ Round Table continuation
    - Set regular schedule of meetings to not lose momentum
    - Do it soon! Invite and we will come
    - Further discussion on governance
        - Terms of reference needed in early stages – purpose/vision
    - Could break meetings into forum themes
    - Quarterly meetings not realistic/feasible – semi annual or annual (unless tiered/thematic)
    - Coordinate with existing regular meeting (e.g. K'ómoks First Nation band council meetings, June Islands Trust/DFO herring meeting)
    - Consider creating Executive Committee and working groups/ technical teams
4. Education:where we live, issues
5. Community events – share info between groups e.g. cleanups

What actions might be needed for the longer term?

1. "New" governance body to jointly tackle some of the issues
    - Protocol agreement? MOU bilaterally or possibly between multiple governments?
2. Secretariat function of joint governance established and resourced (volunteer basis not sustainable)
3. Pulling together all knowledge, information, data
    - Understanding data gaps, further research needed
    - Shared vision, guidelines
    - Level of integration of research
    - Guided by governments and decision-making needs
4. Establish concurrent law models
    - Indigenous/federal/provincial laws = responsibility overlap
    - Concept as part of treaty

5. Expansion and/or integration into larger scale marine governance/planning power (e.g. Salish sea)
6. Someone has to own it and drive it (especially until government structures are established/sustained)
    - Without undermining authority of First Nations (honour spirit of reconciliation)
7. Action plan/work plan (for longer term)
8. Consider legal rights of nature; eco-centric approach: Nature as "legal person" (vs anthropological approach)
9. 2025 shellfish licenses up for renewal
    - Time is good to come up with new ideas and conditions
    - Site-specific or geography-specific conditions

Will any of these actions have co-benefits for other identified challenges?

1. Foundation for long-term action/coordination of other challenges

Appendix A: List of participants

Name	Organization
Alex Munro	Fanny Bay Oysters
Amber Neuman	Fisheries and Oceans Canada
Bill Veenhof	Regional District of Nanaimo
Brenda McQuorkdale	Fisheries and Oceans Canada
Brenda Spence	Fisheries and Oceans Canada
Carl Butterworth	Vancouver Island University
Catherine Gray	Conservancy Hornby Island
Cathy Galligos	Tla'amin Nation
Chief Mike Recalma	Qualicum First Nation
Christina McLeod	West Coast Environmental Law
Councillor Melissa Quocksister	K'ómoks First Nation
Darlene Winterburn	BC Shellfish Growers Association
Darry Monteith	Comox Valley Regional District
David Critchley	Islands Trust - Trustee
Dorrie Woodward	Association of Denman Island Marine Stewards
Greg Thomas	Herring Conservation and Research Society
Karen Hurley	Islands Trust - Staff
Kim Dunn	WWF-Canada
Kristy Marks	Regional District of Nanaimo
Laura Busheikin	Islands Trust - Trustee
Leslie Fettes	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Libardo Amaya	Fisheries and Oceans Canada
Liz Johnston	Association of Denman Island Marine Stewards

Melodie Suchy-Tancon	Denman Hornby Canoes and Kayaks
Phil Robertshaw	Friends of Baynes Sound
Robin Waldford	Conservancy Hornby Island
Robyn Holme	Comox Valley Regional District
Shelley Jepps	Fisheries and Oceans Canada
Teresa Rittemann	Island Trust - Staff
Tony Law	Islands Trust - Trustee

Appendix B: Agenda

AGENDA
Baynes Sound / Lambert Channel Ecosystem Forum
Kingfisher Resort, Royston
Kingfisher Room
May 22–23, 2018

Aims of the Forum

- Create an opportunity for collaborative dialogue amongst the diverse interests in the Baynes Sound / Lambert Channel ecosystem
- Share knowledge and experience that can inform solutions
- Identify ongoing collaborative actions and processes to support the health of the Baynes Sound / Lambert Channel ecosystem

Tuesday, May 22

10:30 am	Registration and networking
11:00 am	Welcome from K'ómoks First Nation, Councillor Melissa Quocksister
11:15 am	Welcome from Islands Trust and WWF-Canada
	Review of the day's agenda
	Roundtable: Introductions
11:45 am	Sharing our concerns about the challenges facing the Baynes Sound and Lambert Channel ecosystem (groups of 3)
12:30 pm	Lunch – Buffet provided
1:15 pm	Overview of Baynes Sound / Lambert Channel ecosystem, human use, and governance (WWF-Canada)

1:35 pm Small group discussions of challenges facing the Baynes Sound and Lambert Channel ecosystem. These are the types of questions we will discuss for each challenge:

- Describe the challenge
- Who is involved in this challenge (directly or indirectly)?
- Is the challenge being addressed now? By whom?
- What are the sticking points? What may be preventing successful resolution?
- What would happen if the challenge was not addressed?

3:15 pm Break

3:30 pm Plenary discussion of challenges: An opportunity to discuss the connected nature of challenges within Baynes Sound / Lambert Channel, including governance.

- What overlaps/connections emerged?
- Are there challenges that have common root causes, or perhaps common sticking points?
- What will happen if the challenges are not addressed? How will the ecosystem be affected? How will people be affected?

4:30 pm Wrap up of Day 1

4:45 pm End of Day 1

6:00 pm Networking dinner – 3-course dinner in Kingfisher Room
Keynote speaker: Hugh MacDonald Stewart, author of *Views of the Salish Sea: One Hundred and Fifty Years of Change Around the Strait of Georgia*

Wednesday, May 23

8:30 am	Breakfast – Buffet provided
9:15 am	Welcome and review of the day's agenda
9:30 am	Sharing our hopes for the Baynes Sound and Lambert Channel ecosystem (groups of 3)
10:30 am	Break
11:00 am	Small group discussions of solutions to challenges facing the Baynes Sound and Lambert Channel ecosystem. These are the types of questions we will discuss for each challenge: • Review the challenge discussion from previous day • What does a 'good outcome' look like? • Who needs to be involved in the solution? • Are there some simple actions that could happen in the next 1-2 years? • What actions might be needed for the longer term? • Will any of these actions have co-benefits for other identified challenges?
12:00 pm	Lunch – Buffet provided
12:40 pm	Meet at ocean edge – behind Kingfisher
1:00 pm	Continued small group discussions of solutions to challenges facing the Baynes Sound and Lambert Channel ecosystem
2:00 pm	Break

2:15 pm	Plenary discussion of potential actions and interconnections: Working through the solutions within the Baynes Sound and Lambert Channel ecosystem, including governance.

- What are some realistic actions that could take place that would improve the health of the marine ecosystem?
- What are some of the 'simple' short term actions that the groups identified?
- What are some of the longer term actions identified?
- How are they interconnected? Do any of these actions overlap? Are there actions that address multiple themes?
- How can the solutions become more than the sum of their parts?

3:30 pm	Next steps: Where do we go from here?
4:15 pm	Closing remarks from co-hosts
4:30 pm	Meeting ends