The Thriving Coastal Communities Initiative

Towards an action research agenda focused on well-being in coastal communities in British Columbia

Prepared by Nathan Bennett & Megan Eadie

With contributions from Jim McIsaac, Tasha Sutcliffe, Des Nobels, Kiera Vandeborne, Sarah Harper, Natalie Ban, Cynthia Bendickson, Analisa Blake, Chelsey Ellis, Erika Gavenus, Tawney Lem, Hannah Harrison, Chris Osborne, Evelyn Pinkerton, Taylor Reidlinger, Dacotah Splichalova, Charlotte Whitney, Gary Wilson, Tugce Conger, Paul Kariya & Clyde Tallio

The Thriving Coastal Communities Initiative

Towards an action research agenda focused on well-being in coastal communities in British Columbia

September 2019
(Final Version)

Prepared by Nathan Bennett & Megan Eadie

With contributions from Jim McIsaac, Tasha Sutcliffe, Des Nobels, Kiera Vandeborne, Sarah Harper, Natalie Ban, Cynthia Bendickson, Analisa Blake, Chelsey Ellis, Erika Gavenus, Tawney Lem, Hannah Harrison, Chris Osborne, Evelyn Pinkerton, Taylor Reidlinger, Dacotah Splichalova, Charlotte Whitney, Gary Wilson, Tugce Conger, Paul Kariya & Clyde Tallio

Contact information for lead authors:
Nathan Bennett, Institute for the Resources, University of British Columbia (nathan.bennett@ubc.ca)
Megan Eadie, T Buck Suzuki Foundation (megan@bucksuzuki.org)

Cover image designed by Ravi Maharaj (ravi.r.maharaj@gmail.com)

Summary

Rural and resource-based coastal communities in British Columbia (BC) are facing a number of pressing challenges that are affecting the holistic health and well-being of local people. The challenges facing coastal communities include being disconnected from decision-making process, a changing climate, rapidly evolving ecosystems, increasing pollution, declining investment, loss of community infrastructure, increasing competition over marine space, loss of access to fisheries and increasingly complex marine management regimes. Local communities are feeling the impacts of these pressures and changes in very real ways. Research into communities on the BC coast suggests that they are experiencing loss of livelihoods, declining economies, outmigration of youth to urban centers, loss of food security, increasing drug use, and a suite of physical and mental health challenges.

It is important that coastal communities continue to thrive and maintain an active presence on the water. Yet, change is a constant for coastal communities. The health and well-being, indeed the persistence, of coastal communities depends on their capacity to proactively respond to external change and challenge. The presence of thriving communities on the coast is also important for Canadian society - as coastal communities can strengthen rural-urban dynamics, support robust food systems and economies, be the eyes on the longest coastline in the world, be first responders in the case of emergencies, and be active stewards of the marine environment.

With support from an initial Convene Grant from the Vancouver Foundation, we pulled together a team of collaborators and partners to develop a project titled "The Thriving Coastal Communities Initiative". For our initial activity, we convened a meeting of 24 experts and thought-leaders to explore the issues facing coastal communities and identify priority solution-oriented research projects for further development. Participants had expertise across a variety of realms of community well-being such as economic development, infrastructure, health, food systems, social justice, culture, climate vulnerability and adaptation, fisheries and conservation, and governance. Our central question for the initial participatory workshop was "How can coastal communities continue to thrive amidst the significant changes and challenges that they are facing?" and our central concern was "What can we do to help?" through action research projects. Through facilitated discussions and dialogues, we drew on the wisdom of the group to respond to a number of questions related to the status of well-being in coastal communities, the changes that they are experiencing, the actions they are taking to respond to change and promote local well-being, and priority research topics related to coastal community well-being.

As the workshop results presented in this report makes clear, communities are facing many challenges that are affecting their well-being but they are also taking many actions to promote local well-being. We identified a number of priority action research projects focused on various topics (e.g., economic development, fisheries, food security, governance, the environment, and cross-cutting concerns) related to well-being in coastal communities in British Columbia. Our next steps are to share these results, continue to build partnerships with interested organizations (e.g., communities, NGOs, governments, funders, universities), seek additional funding for priority projects, and further develop and implement several of the priority projects. Through our efforts, we hope to continue to support coastal communities in their efforts to promote local well-being and continue to thrive amidst change.

Table of Contents

Introducing The Thriving Coastal Communities Initiative

Background

Resource-based coastal communities in British Columbia (BC) are facing a number of pressing challenges that are affecting the holistic health and well-being of local people. The challenges facing coastal communities include being disconnected from decision making, a changing climate, rapidly evolving ecosystems, changing economic opportunities, declining invesments and loss of community infrastructure, increasing competition over marine space, loss of access to fisheries, and increasingly complex marine management regimes (Ommer & Team 2007; Bennett et al. 2018). Local communities are feeling the impacts of these pressures and changes in very real ways. Research into communities on the BC coast suggests that they are experiencing loss of livelihoods, declining economies, outmigration of youth to urban centers, loss of food security, increasing drug use, and a suite of physical and mental health challenges (Stocks 2016). However, we feel that it is important that coastal communities continue to thrive and maintain an active presence on the water. The health and well-being, indeed the persistence, of coastal communities depends on their capacity to proactively respond to external change and challenge (Bennett et al. 2015; Whitney et al. 2017). The presence of thriving communities on the coast is also important for Canadian society - as coastal communities can strengthen rural economies and rural-urban dynamics, support robust food systems and economies, be the eyes on the longest coastline in the world, be first responders in the case of emergencies, and be active stewards of the marine environment (Ommer & Team 2007; Bennett et al. 2018).

Past Research

The vast majority of the past and current research taking place in coastal BC is related to natural science. On the social and participatory research side, there have been fewer research efforts on the BC coast focused on issues related to the topic of this proposal. There have been several individual research projects focused on topics such as health and well-being in coastal communities (Dolan et al. 2005; Ommer & Team 2007; Donatuto et al. 2014; Stocks 2016), the impacts of climate change (Turner & Clifton 2009; Sumaila & Lam 2015; Weatherdon et al. 2016), coastal community adaptive capacity and adaptation (Groesbeck et al. 2014; Chang et al. 2015; Oulahen et al. 2017), indigenous stewardship of fisheries and marine resources (Deur et al. 2015; Thornton 2015), and fisheries and marine protected area management (Ban et al. 2009; Klain et al. 2014; Haas et al. 2016; Loring & Hinzman 2018). A team of researchers from the OceanCanada Partnership is developing a research project and implementing a survey focused on coastal community access to fisheries and the ocean in British Columbia (Bennett et al. 2018). T.Buck Suzuki, the lead community partner organization on this project, has also produced or co-produced a number of research reports on fisheries for communities, the state of coastal communities, the implications of individual transferable quotas for coastal communities, and the value of fisheries for coastal communities (Ecotrust Canada 2004, 2009; O'Donnell et al. 2013; Robertson et al. 2014; Stocks 2016; Belhabib et al. 2018). Much of the past research has been driven by outside researchers, though some has been more participatory and developed from the bottom-up. Most of these projects have been small in scope and focused on individual case studies rather than seeing the big picture of coastal community issues and well-being. Furthermore, there are no projects that we are aware of that have sought to collaboratively identify the main issues that coastal communities are facing, to identify research gaps and needs, and to plan how to address the issues with community partners.

Filling the Gap

We applied for and were successful in getting an initial Convene Grant from the Vancouver Foundation to bring together a meeting of experts and thought-leaders to explore the issues facing coastal

communities and identify priority action research projects for further development. Through developing "The Thriving Coastal Communities Project" our aim was to launch a truly participatory research process with coastal community partners. Our central question for the initial participatory workshop was "How can coastal communities continue to thrive amidst the significant changes and challenges that they are facing?" and our central concern was "What can we do to help?" through action research. In this document, we provide an overview of the workshop and present a summary of the discussion. In addition, we identify potential and priority topics for action and research focused on British Columbia's coastal communities and well-being. In conclusion, we discuss potential next steps for "The Thriving Coastal Communities Initiative".

Convening the Workshop

About the workshop

We held and facilitated a two-day workshop at the University of British Columbia on May 22-23, 2019 that was attended by 24 participants. Our objectives with the workshop were:
- To convene a meeting of experts and thought leaders who are knowledgeable of or active in coastal communities in BC;
- To identify key challenges and well-being issues facing coastal communities in BC;
- To identify and prioritize potential action research projects for further development; and,
- To develop a community of practice of people focusing on topics and projects related to well-being in coastal communities in BC.

Workshop participants

There is a large network of organizations who are affected by and are actively working on the types of issues and challenges that we have identified. We drew from this network to develop "The Thriving Coastal Community Initiative". For this meeting we brought together an initial group of individuals from universities, organizations and communities who are knowledgeable of or active in BC coastal communities. This group of thought leaders had expertise across a variety of realms of community well-being such as economic development, infrastructure, health, food systems, social justice, culture, climate vulnerability and adaptation, fisheries and conservation, and governance. Workshop participants included the following individuals – who attended for part or all of the workshop:

Table 1 - Workshop participants

Name	Organization
1. Nathan Bennett (Academic lead, facilitator)	University of British Columbia
2. Megan Eadie (Community lead)	T Buck Suzuki
3. Jim McIsaac	T Buck Suzuki, Commercial Fishing Caucus
4. Tasha Sutcliffe	Ecotrust Canada
5. Des Nobels	Coastal Community Network
6. Kiera Vandeborne	T Buck Suzuki, BC Young Fishermen's Network
7. Sarah Harper	University of British Columbia
8. Natalie Ban	University of Victoria
9. Cynthia Bendickson	Greenways land trust
10. Analisa Blake	Vancouver Island Health Authority
11. Chelsey Ellis	Ecotrust Canada

Name	Organization
12. Erika Gavenus	University of British Columbia
13. Tawney Lem	West Coast Aquatic
14. Hannah Harrison	University of Guelph
15. Chris Osborne	City of Campbell River
16. Evelyn Pinkerton	Simon Fraser University
17. Taylor Reidlinger	Ecotrust/North Coast Innovation Lab/Coastal Shellfish Corp
18. Dacotah Splichalova	University of British Columbia
19. Charlotte Whitney	Pacific Salmon Foundation
20. Gary Wilson	Coastal First Nations
21. Tugce Conger (Day 1 only)	University of British Columbia
22. Paul Kariya (Day 1 only)	Coastal First Nations
23. Linda Nowlan (Day 1 only)	West Coast Environmental Law
24. Clyde Tallio (Day 1 only)	Nuxalk Ancestral Governance Project

One limitation of our participant list was that it was very challenging to find more representatives from the central coast who were available to attend the meeting, even though we were able to cover travel costs and provide a stipend. We believe this was largely due to how busy many local community leaders are both within their communities and also responding to external requests. While we did our best to ensure a diverse group, we recognize that the knowledge presented in this report only represents the ideas of those who were present for the conversation.

Figure 1 - Photograph of workshop participants at the end of Day 2

Workshop schedule, format and central questions

The two-day workshop consisted primarily of a series of facilitated discussions using participatory research techniques. The philosophy behind this approach was that the knowledge and ideas should come from the group. To achieve the objectives of the workshop, there were five facilitated discussions that were guided by a central topic and the following central questions:
   1. Coastal Community Well-being - What do we know about the current status of the well-being of coastal communities?

2. Change and Impacts - What external changes are coastal communities experiencing – including threats to well-being and emerging opportunities? How are these changes impacting coastal communities?
3. Responses and Capacities – How are coastal communities responding to external changes and their impacts in order to maintain or increase well-being? What actions are they taking? What capacities – assets and barriers - do communities have to be able to respond?
4. Research Priorities and Data Needs – What research topics or questions deserve further attention related to the different domains of coastal community well-being? What information or data is needed to enable consideration of the well-being of coastal communities in local or external decision-making?
5. Next Steps for the Thriving Coastal Communities Initiative - What are the next steps for the "Thriving Coastal Communities Initiative"? What topics that we have discussed are priority topics for future research? Are there other collaborations or topics that members of the group want to discuss or propose?

We also had posters on the wall, where workshop participants could place sticky notes, with the following questions:
• What past research and published documents focus on these issues? Complete titles, references.
• What data sources currently exist that can tell us the story of well-being in coastal communities?
• What current projects exist that focus on coastal community well-being?

Below is a brief overview of the workshop schedule.

Overview of Workshop Schedule

Day 1: May 22, 2019 – 10-5pm	
10-10:30	**Introductions; Coffee & snacks**
10:30-12:00	Overview and Participant Introductions
12-1pm	**Lunch Break**
1-3	Facilitated discussion - Coastal community well-being
3-3:15	**Coffee/snack break**
3:15-5	Facilitated discussion - Threats and opportunities
6pm	Dinner & drinks on campus
Day 2: May 23, 2019 – 9am-4pm	
9-10:30	Introduction to Day 2 Facilitated discussion - Impacts, Responses and Capacities
10:30-10:45	**Coffee/snack break**
10:45-12:30	Facilitated discussion – Research Priorities and Data Discussion
12:30-1:30pm	**Lunch Break**
1:30-3:30pm	Facilitated discussion – The Thriving Coastal Communities Initiative
3:30-4:00pm	Workshop closure.

Results from Facilitated Discussions

After a brief presentation to introduce the project and self-introductions by those present at the workshop, we got down to the work of generating ideas through facilitated discussions. The following sections of the report briefly introduce how discussions were faciliated to generate ideas and then provide a summary of the discussion on each topic. There are five sections that focus on: a) Well-being in coastal communities, b) Change and impacts, c) Responses and capacities, d) Research topics and data needs and e) Next steps for The Thriving Coastal Communities Initiative.

Figure 2 - Collage of pictures of participants engaged in facilitated activities and discussions

Well-being in coastal communities in British Columbia

For the first activity, we asked participants to brainstorm in small groups responses to the following guiding question: "What do we know about the current status of the well-being of coastal communities?" Groups recorded their responses and then one individual was asked to share their responses with the larger group. Responses were recorded under the following categories or domains of community well-being: Social, Health, Food, Cultural, Governance, Environment/Ecology, Economic Development, Infrastructure, Education and Cross-Cutting Themes.

Below is a summary of the results of the general status of community well-being according to the opinions and knowledge of the workshop participants. The following symbols are used to denote status and trends: ↗ = Status is improving; ↘ = Status is declining ➔ = Status is staying the same; and, ~ = Status varies across communities

Table 2 - Summary of group discussions related to the status of well-being in coastal communities in British Columbia

Domain of Wellbeing	Topics Discussed and Status
Social	↗ Strong interconnectedness in communities ↘ Crime and drug abuse in communities ↘ Economic development not accounting for social impacts ↘ Lots of vices – drugs, etc.
Health	~ Demographics – aging population, loss of youth ↘ Centralization of health services, often moving away from communities ↘ Housing – Affordability crisis in many rural regions ↘ Early childhood vulnerability scores are high ↘ Mental health issues on the rise ↘ Many drinking water quality issues
Food	↘ Changes in food security – lack of access to local seafood and access to fishermen ↘ Local resources are not treated or managed as food ↘ Major differences in access – e.g., control, allocation, affordability ↘ Access to local fish and seafood often limited by regulations and fisheries monitoring requirements ↗ Food security hubs on the rise ↘ Declines of traditionally important foods
Cultural	~ Trade within communities – often declining, but improving in some places ↗ Cultural revitalization programs on the increase ↗ Guardian programs, SEAS programs ↘ Loss of traditional knowledge ↘ Erosion of connection to place, and communities of place ~ Arts and spiritual communities
Governance	↗ Collaborations in coastal and ocean decision-making ~ Collaborations between communities ↘ Disconnected periphery from central decision-making processes and decision-makers ↗ Strong access to local decision-makers and process ↘ Ineffective participation in fisheries management ~ Lack of long-term and forward-thinking planning capacity in many communities ↘ Legislation and jurisdictional challenges
Environment/Ecology	↗ Increased local stewardship efforts ~ Monitoring of environment often done outside of the community ↗ Strong connection to the ocean in coastal communities ↘ Many indicators of environmental health and status are showing declines ↘ Numerous climate change impacts - Sea level rising, ocean acidification, storm events, etc.

Domain of Wellbeing	Topics Discussed and Status
Economic Development	↘ Lack of control and ownership over fisheries ↘ High levels of unemployment and very seasonal employment ↗ Boom of ecotourism development ↗ Movement towards more ecological and social economic models – e.g. more jobs from fisheries, conservation-based economy ↗ Barter economy is healthy in many places ↘ Recruitment issues – human resource deficits, lack of skilled workers ↘ Shopping is often done outside community, leading to declines in local spending and stores
Infrastructure	↘ Port decision-making – separate governance process, outside of government not done in the community interest ↘ Loss of community infrastructure for fisheries (e.g., wharves, etc.) ↘ Many community infrastructure declines and gaps ~ People can't return to communities due to lack of infrastructure and housing ↘ Coastal transportation is an issue for getting products to market ↗ Power generation and energy infrastructure is improving ↗ Communications infrastructure is improving
Education	~ People often leave communities for schooling ↗ Academic institutions moving into coastal communities, applied programs, educational infrastructure in communities ↗ Lots of good research and institutes on the coast – more ecological research than social
Cross-Cutting	↘ Communities are in transition – demographic, ecological, economic ~ Communities are very diverse ↘ Centralization of services across different sectors – e.g., transportation, health, etc. ~ There are inequities based on geography ~ Historical experiences and narratives vary greatly ~ Divergent narratives/values/definitions of well-being from community to community

External changes and impacts on coastal communities

During a second facilitated discussion, we asked the workshop participants to split into small groups and discuss external changes and impacts on coastal communities using the following guiding questions: "What external changes are coastal communities experiencing – including threats to well-being and emerging opportunities? How are these changes impacting coastal communities?" Notes were taken on chart paper. Groups were then asked to choose 5-10 of these changes that are particularly salient for communities to share with the room. Descriptions of the changes and their impacts were written on large sticky notes. A presenter from each group came up and placed the changes onto a large "influence diagram" on the wall to characterize the scale of the change (i.e., global, national, local) and the nature of the impact (i.e., negative, neutral or variable, positive).

Figure 3 – Influence diagram for characterizing the scale and nature of changes being experienced by coastal communities

The table below provides a much-abbreviated version of the results of this discussion.

Table 3 - Types of changes that coastal communities in British Columbia are facing characterized by scale of change and nature of the impact on the community

Scale of Change	Nature of the Impact		
	Negative Impact (Threats)	Neutral or Variable Impact	Positive Impact (Opportunities)
Global Change	• Climate change and associated impacts • Increasing reliance on international markets • Neoliberal economic policies and financialization • Privatization of the ocean commons • Marine pollution, debris and plastics	• Globalization (e.g., at whim of fluctuating markets, high market demand for fish and natural resources) • Technological development (e.g., increased external reliance, increased local capacity, increased access to deep ocean resources)	• Increasing access to international markets • Oceans are on the global policy agenda • Global efforts to promote sustainability (e.g., UN treaty for Biodiversity Beyond Natrional Jurisdictions) • Rapid technological change leading to better scientific understanding
National Change	• Political change and loss of policy momentum • National policies & decisions disconnected from local needs • Lack of formal or effective mechanisms to decentralize national decision making to regions (e.g., US Regional Fisheries Management)	• Energy development (e.g., non-renewable oil & gas versus renewable energy) • Governments and policies (e.g., supportive/ unsupportive of local communities and owner-operator fisheries)	• Government interest in increasing local benefit from fisheries resources (e.g., Recent FOPO report - Shared Risks and Benefits) • Creation of Guardian Watchmen Program • Attention to Reconciliation • Increasing attention to participation in ocean governance • Local connectivity (e.g., fiber optics)

Scale of Change	Nature of the Impact		
	Negative Impact (Threats)	Neutral or Variable Impact	Positive Impact (Opportunities)
Local Change	• Individual lifestyle changes and impacts on health • Decreased involvement of youth in fisheries	• Declines in abundance and productivity of natural resources (e.g., lost jobs, opportunity to redefine local economies) • Demographic shifts in local communities (e.g., loss of elders and knowledge, aging populations, influx of new younger generation to some communities)	• Alternative economic development opportunities • Local product development and branding • Youth interest and involvement in stewardship • Local attention to food sovereignty and security • Local education programs and skill development

Coastal community responses and capacities

The next facilitated activity focused on exploring responses to the following questions: "1) How are coastal communities responding to external changes and their impacts in order to maintain or increase well-being? What actions are they taking? 2) What capacities – assets and barriers - do communities have to be able to respond?" Groups were asked to discuss and take notes on chart paper on both responses and capacities. A presenter from each group then summarized the points discussed in each group.

The groups discussed numerous actions that local communities are already taking to maintain or increase their own well-being. These actions include the following:
- Promoting local renewable energy projects and community energy security
- Developing local government charters to guide external engagements
- Increasing local emergency preparedness (energy, hospitals, infrastructures)
- Managing local assets, including natural, social, cultural and infrastructure assets
- Supporting local food movements (e.g., community supported fisheries, canning, agriculture, backyard farms, markets, community kitchens)
- Building local and citizen science programs, for employment and keeping knowledge in communities
- Developing community risk assessment methodologies to enable proactive planning
- Planning for long-term sustainability through the Marine Plan Partnership (MaPP), the Pacific North Coast Integrated Management Area & West Coast Aquatic processes, with local, regional, provincial and First Nations governments
- Local and regional governments creating sustainability branches and hiring sustainability coordinators
- Creating local economic development opportunities and building entrepreneurial capacity (e.g., community futures offices, small business grants programs, local branding efforts)
- Diversifying local economic activities (e.g., tourism, value added products, social enterprise) to decrease reliance on natural resource extraction
- Increasing knowledge of climate change impacts, developing coastal community adaptation plans, and improving local community capacity to adapt (e.g., hiring local coordinators)
- Advocating for central role of coastal communities in marine response
- Developing events and activities to showcase local culture (e.g., seafood festivals, agritourism, etc.)

- Working to maintain and increase local transportation infrastructure – airstrips, highways, ports, etc.
- Advocating for consideration of local community needs in port decision-making
- Increasing coordination through creating organizations that work on broad level to amplify community voices (e.g. Association of Vancouver Island and Coastal Communities, Coastal First Nations, Skeena FN Stewardship Society, Nanwakolas First Nations, Nuu-Chah-Nulth Tribal Council, First Nations Fisheries Council, First Nations Health Authority, Coastal Community Network)
- Engaging in coastal and ocean planning, fisheries management and stewardship activities

The group also identified a number of assets and barriers that communities have in responding to external change or taking actions to maintain local well-being.

Table 4 – Assets and barriers to community capacity to respond to external change and maintain well-being

Assets	Barriers
- Local champions and volunteers - Cultural assets (e.g., identity, activities, livelihoods, traditions) in communities - Strong social connectedness in coastal communities - Cultural training programs (e.g. tourism industry) - Local and traditional knowledge - Strong connections to and knowledge of the environment (e.g., for science, stewardship, harvesting, and response capacity) - Natural assets from the environment - Wild and cultivated food assets (e.g., potential for trade, value add, decrease reliance on exports - Indigenous rights and self-governance capacity - Strong coalitions between communities around specific issues and common goals - Provincial funding available for food security work - Non-government funding sources available to fill gaps in government funding - Marine planning processes benefiting FN, through engagement and capacity building - Federal funding available for the Ocean Protection Plan (OPP) and marine planning processes	- Small and shrinking tax bases (varies) - Little coordination across government scales (local, regional, provincial, national) or jurisdictions - Limited overall volunteer capacity - Community capacity is often taken up implementing externally-driven and top-down projects or initiatives - Hard to get external organizations to support locally driven initiatives - Capacity of smaller communities to access government grants (e.g., grants designed for larger cities, most do not cover salaries, match funding requirements, limited geographies) - Historical and perceived conflict between user groups and communities - Downloading of responsibility for infrastructure to local communities - Government will and support to implement community recommendations, policy recommendations, and outcomes of planning processes - Ineffective government consultation processes (e.g., within DFO, staff not trained) - Limited local capacity – skills and funding – to carry out different programs of work - Entrenched bureaucracies that are resistant to change - Central coast has limited coastal connection

Potential research topics related to coastal communities and well-being

To develop a list of possible action and research topics related to coastal communities and well-being, we asked the group to reflect on the guiding questions: "What research topics or questions deserve

further attention related to the different domains of coastal community well-being? What information or data is needed to enable consideration of the well-being of coastal communities in local or external decision-making?" First, we asked individuals to brainstorm individually onto post-it notes. Then we asked individuals to come up and pitch one project at a time to the group and place it onto a large wheel on the wall with sections representing the different domains of coastal community well-being (e.g., Social, Health, Food, Cultural, Governance, Environment/Ecology, Economic Development, Infrastructure, Education and Other) and a central hub for cross-cutting topics.
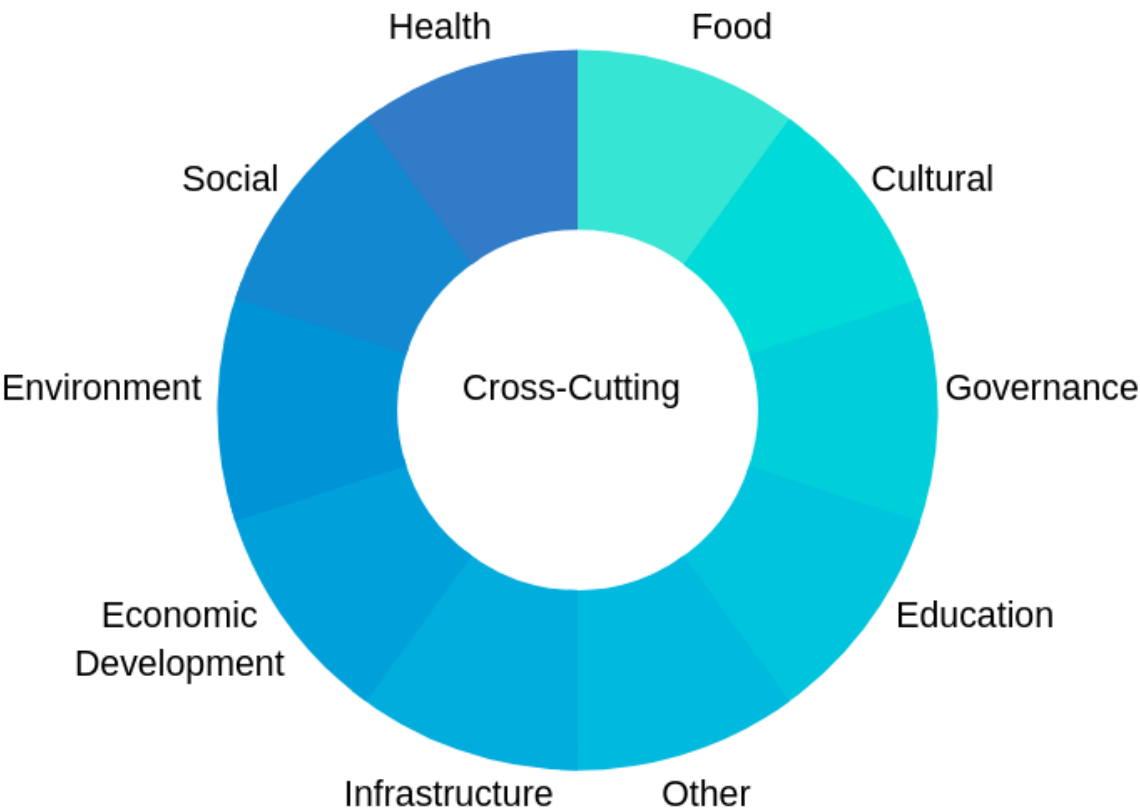

Figure 4 - Well-being wheel used for categorizing potential research topics related to coastal communities and well-being

Due to length, we have included the notes resulting from this discussion in the supplementary materials under the title "Potential Research Topics on Topics Related to Coastal Community Well-being".

Priority action research projects on coastal communities and well-being

During a final facilitated discussion, we discussed next steps for the "Thriving Coastal Communities Initiative" including potential outputs and future projects for action or research. Our discussion mainly focused on responding to the following question: "What topics that we have discussed are priority topics for future research?" This discussion was conducted in plenary with the whole group. The following table shows potential action and research projects that were deemed of high importance and interest by the group.

Table 5 - Priority Action Research Projects Related to Well-Being in Coastal Communities in British Columbia

Overarching Topics Related to Well-being in Coastal Communities

- Documenting "Why Coastal Communities Matter" with empirical evidence, through interviews with experts and community leaders, and communicating this in multi-media formats to the public and decision-makers.
- Developing a system and indictors to measure status and track changes in well-being in coastal communities in BC.
- Organizing a much larger meeting of people and organizations, that work on well-being in coastal communities in BC. Through this meeting, we might collaboratively identify and map efforts of all groups working in this space and articulate a priority set of actions for addressing issues facing coastal communities.
- Co-developing a "charter for coastal communities" that articulates guiding principles for engaging with coastal communities

Economic Development and Well-being in Coastal Communities

- Conducting a full cost accounting of the socio-economic impacts of different economic activities that are occurring in coastal communities in BC.
- Conducting economic and feasibility analysis of local value added industries for current and potential resource-based industries
- Conducting a coastal community value chain analysis for different industries

Fisheries and Well-Being in Coastal Communities

- Analyzing the influence of loss of access to fisheries for coastal community wellbeing
- Identifying mechanisms to maintain the benefits of the fisheries economy in rural coastal communities
- Identifying and evaluating different proposals for how to maintain and grow local owner-operator fleets in British Columbia
- Conducting an analysis of current labour skills, transferability to other industries and capacity building needs
- Identifying bridges and barriers to local ownership of economic development opportunities, and how to create partnerships for existing and emerging opportunities

Environment and Well-Being in Coastal Communities

- Understanding the impact of climate change on community wellbeing
- Understanding the impact of marine pollution on health and well-being
- Conducting feasibility studies on potential growth and contributions of the restoration and conservation economy to coastal communities
- Developing methods and processes for integrating human well-being into environmental management and marine conservation in BC and Canada (e.g., fisheries management, marine protected areas, marine spatial planning, ecosystem based management, and aquaculture)

Governance and Well-Being in Coastal Communities

- Mapping the various legislation, policies and programs that impact coastal community wellbeing
- Identifying how to develop collaborative coastal and ocean governance structures and processes that include local representatives, voices and visions at all scales on the BC coast
- Conducting a historical review of past priorities recommendations made to government and actions taken in response to coastal communities

Food Systems and Security and Well-Being in Coastal Communities

- Identifying how to connect or reconnect fisheries to local food systems
- Mapping of food systems and security in individual coastal communities and more broadly along the coast

Next Steps for the Thriving Coastal Communities Initiative

This report provides a summary of a workshop that convened a group of 24 experts and thought-leaders who are knowledgeable of or active in coastal communities in British Columbia. Our central question for the initial participatory workshop was "How can coastal communities thrive amidst the significant changes and challenges that they are facing?" and our central concern was "What can we do to help?" through developing an action research project. Our approach was to use facilitated dialogues and discussions to draw on the wisdom of the group. As the workshop results presented in this report makes clear, communities are facing many challenges that are affecting their well-being but they are also taking many actions to promote local well-being. We identified a number of high priority action research projects focused on various topics (e.g., economic development, fisheries, food security, governance, the environment, and cross-cutting concerns) related to well-being in coastal communities in British Columbia. Our next steps are to share these results, continue to build partnerships with interested organizations (e.g., communities, NGOs, governments, funders, universities), seek additional funding for priority projects, and further develop and implement several of the priority projects with our nascent community of practice. Through this initiative, we hope to support coastal communities in their efforts to promote local well-being and continue to thrive amidst change.
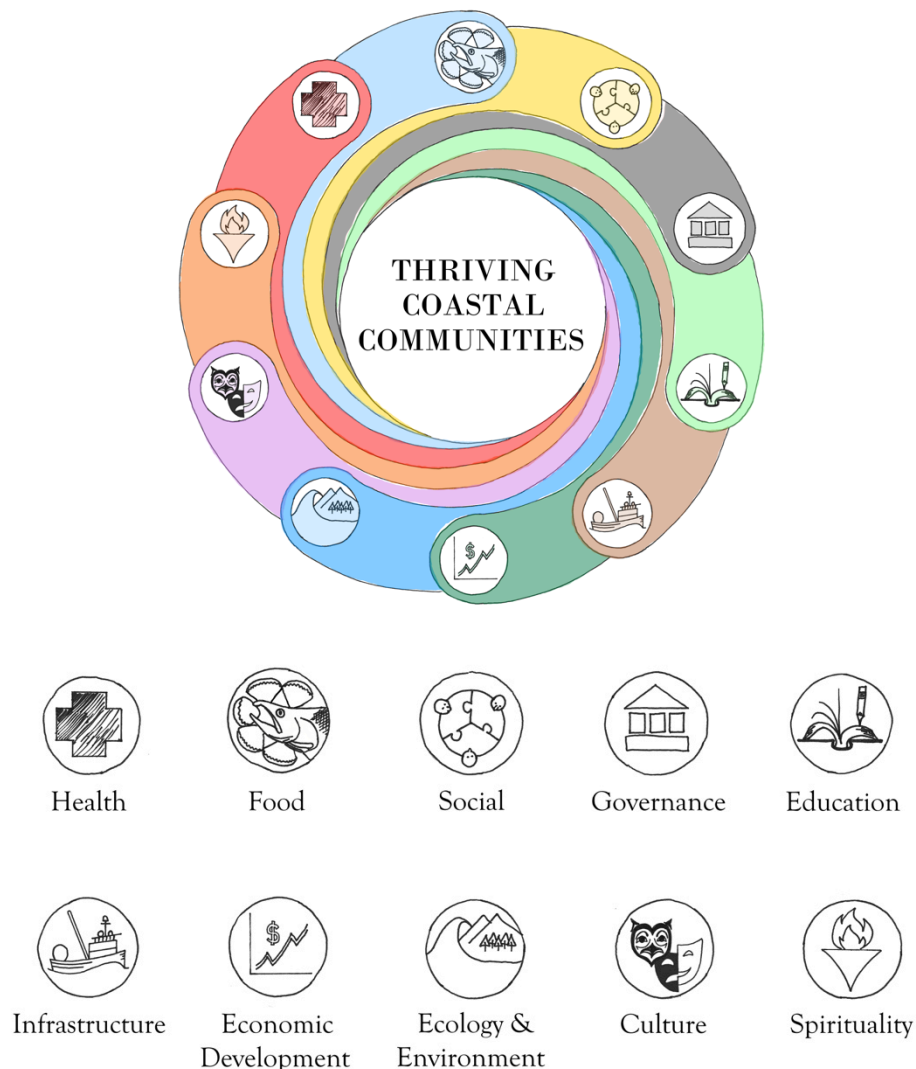
References

Ban, N. C., Picard, C. R., & Vincent, A. C. J. (2009). Comparing and integrating community-based and science-based approaches to prioritizing marine areas for protection. *Conservation Biology*, *23*(4), 899–910. https://doi.org/10.1111/j.1523-1739.2009.01185.x

Bennett, N. J., Blythe, J., Tyler, S., & Ban, N. C. (2015). Communities and change in the anthropocene: understanding social-ecological vulnerability and planning adaptations to multiple interacting exposures. *Regional Environmental Change*, online. https://doi.org/10.1007/s10113-015-0839-5

Bennett, N. J., Kaplan-Hallam, M., Augustine, G., Ban, N., Belhabib, D., Brueckner-Irwin, I., … Bailey, M. (2018). Coastal and Indigenous community access to marine resources and the ocean: A policy imperative for Canada. *Marine Policy*, *87*, 186–193. https://doi.org/10.1016/j.marpol.2017.10.023

Chang, S. E., Yip, J. Z. K., van Zijll de Jong, S. L., Chaster, R., & Lowcock, A. (2015). Using vulnerability indicators to develop resilience networks: a similarity approach. *Natural Hazards*, *78*(3), 1827–1841. https://doi.org/10.1007/s11069-015-1803-x

Deur, D., Dick, A., Recalma-Clutesi, K., & Turner, N. J. (2015). Kwakwaka'wakw "Clam Gardens." *Human Ecology*, *43*(2), 201–212. https://doi.org/10.1007/s10745-015-9743-3

Dolan, A. H., Taylor, M., Neis, B., Ommer, R., Eyles, J., Schneider, D., & Montevecchi, B. (2005). Restructuring and Health in Canadian Coastal Communities. *EcoHealth*, *2*(3), 195–208. https://doi.org/10.1007/s10393-005-6333-7

Donatuto, J., Grossman, E. E., Konovsky, J., Grossman, S., & Campbell, L. W. (2014). Indigenous Community Health and Climate Change: Integrating Biophysical and Social Science Indicators. *Coastal Management*, *42*(4), 355–373. https://doi.org/10.1080/08920753.2014.923140

Ecotrust Canada. (2004). *CATCH-22: Conservation, communities and the privatization of B.C. fisheries* (p. 47). Vancouver, BC: Ecotrust Canada.

Ecotrust Canada. (2009). *Briefing: A cautionary tale about ITQs in BC fisheries* (p. 8). Vancouver, BC: Ecotrust Canada.

Ecotrust Canada. (2018). *Fisheries for Communities Gathering: Proceedings Report*. Vancouver, BC: Ecotrust Canada.

Groesbeck, A. S., Rowell, K., Lepofsky, D., & Salomon, A. K. (2014). Ancient Clam Gardens Increased Shellfish Production: Adaptive Strategies from the Past Can Inform Food Security Today. *PLOS ONE*, *9*(3), e91235. https://doi.org/10.1371/journal.pone.0091235

Haas, A. R., Edwards, D. N., & Sumaila, U. R. (2016). Corporate concentration and processor control: Insights from the salmon and herring fisheries in British Columbia. *Marine Policy*, *68*, 83–90. https://doi.org/10.1016/j.marpol.2016.02.019

Klain, S. C., Beveridge, R., & Bennett, N. J. (2014). Ecologically sustainable but unjust? Negotiating equity and authority in common-pool marine resource management. *Ecology and Society*, *19*(4), 52. https://doi.org/http://dx.doi.org/10.5751/ES-07123-190452

Loring, P. A., & Hinzman, M. S. (2018). "They're All Really Important, But…": Unpacking How People Prioritize Values for the Marine Environment in Haida Gwaii, British Columbia. *Ecological Economics*, *152*, 367–377. https://doi.org/10.1016/j.ecolecon.2018.06.020

O'Donnell, K., Hesselgrave, T., Macdonald, E., McIsaac, J., Sutcliffe, T., Fernandes, D., & Reid-Kuecks, B. (2013). *Understanding Values in Canada's North Pacific: Capturing Values from Commercial Fisheries*. Retrieved from T. Buck Suzuki and Ecotrust Canada website: http://ecotrust.ca/wp-content/uploads/2015/02/2013_Report_UnderstandingValuesCanadasNorthPacific.pdf

Ommer, R. E., & Team. (2007). *Coasts under stress: Restructuring and social-ecological health*. Montreal, QC: McGill-Queen's Press.

Oulahen, G., Chang, S. E., Yip, J. Z. K., Conger, T., Marteleira, M., & Carter, C. (2017). Contextualizing institutional factors in an indicator-based analysis of hazard vulnerability for coastal communities. *Journal of Environmental Planning and Management*, 1–21. https://doi.org/10.1080/09640568.2017.1399109

Robertson, A., Sutcliffe, T., Fernandes, D., Reid-Kuecks, B., McIsaac, J., Nobles, D., … Mesmain, M. (2014). *Caught up in catch shares*. Vancouver, BC: Ecotrust Canada and T. Buck Suzuki Environmental Foundation.

Stocks, A. (2016). *State of Coastal Communities in British Columbia 2016* (p. 20). T. Buck Suzuki Environmental Foundation.

Sumaila, U. R., & Lam, V. W. Y. (2015). *Out of Stock: The Impact of Climate Change on British Columbia's Staple Seafood Supply and Prices*. Vancity Vancouver.

Thornton, T. F. (2015). The Ideology and Practice of Pacific Herring Cultivation among the Tlingit and Haida. *Human Ecology*, *43*(2), 213–223. https://doi.org/10.1007/s10745-015-9736-2

Turner, N. J., & Clifton, H. (2009). "It's so different today": Climate change and indigenous lifeways in British Columbia, Canada. *Global Environmental Change*, *19*(2), 180–190. https://doi.org/10.1016/j.gloenvcha.2009.01.005

Weatherdon, L. V., Ota, Y., Jones, M. C., Close, D. A., & Cheung, W. W. L. (2016). Projected Scenarios for Coastal First Nations' Fisheries Catch Potential under Climate Change: Management Challenges and Opportunities. *PLOS ONE*, *11*(1), e0145285. https://doi.org/10.1371/journal.pone.0145285

Whitney, C. K., Bennett, N. J., Ban, N. C., Allison, E. H., Armitage, D., Blythe, J. L., … Yumagulova, L. (2017). Adaptive capacity: from assessment to action in coastal social-ecological systems. *Ecology and Society*, *22*(2), 22. https://doi.org/10.5751/ES-09325-220222

Poster A – Current and past projects related to coastal communities and well-being (From chart paper on wall, rough notes from post-it notes)

- Walsh et al: Priority threat management for central coast salmon management
- Coast funds wellbeing indicators
- Rediscovery camps
- Coasts under stress project (Rosemary Ommer et al)
- SEAS program (Central Coast FN) Supporting Emerging Aboriginal Stewards
- Resilient-Coast Canada (UBC based research on the strait of Georgia)
- Coastal Routes "what works" and "bright spots" on Canada's 3 coasts www.coastalroutes.org
- Sustain BC
- Ocean Canada Partnership SSHRC project
- City of Campbell River "rising seas" initiative – active planning for sea level rise
- Prof Stephanie Chang (UBC) has 5-6 different projects with coastal communities
- Stewardship technical training program coastal FN
- Canadian fisheries research network (CFRN)
- Social innovation labs e.g.: TNC Emerald edge, Ecotrust Canada north coast innovation lab
- SFU REM program – cumulative effects monitoring: Metlakatla
- Good food network
- Island food security hubs (island health)
- Community health networks (island health) collaboratives for social determinants of health
- BC healthy built environment alliance (BC HBEA)
- Food connections conference 2019: fish is food (Greenways land trust)
- Boat to table workshop for direct sales (Greenways land trust)
- Island food hubs
- foodatlas.ca

Poster B – Past research and references (From chart paper on wall, rough notes from post-it notes)

- In process: West Coast Aquatic and University of Ottawa roundtables on co-management
- Joyce & Satterfield (2010) shellfish aquaculture and first nations sovereignty SD in contested sea space
- Vancouver island economic development report
- Regional districts source of data on communities – also AGM Resolutions
- Health benefits of omega rich salmon Luanne Roth T.Buck
- "Just transactions just transitions" 2018 report
- Pinkerton and Davis 2015 (open access) Marine Policy article on neoliberalism and small-scale fisheries
- FOPO report - sharing risks and benefits
- CFRN multi obj evaluation in fisheries – Stephenson et al 2018
- Food security report: seafood importance in coastal communities in AK Loring, Gerlack, Harrison, May 2013
- The legacy of the Nuxalk food and nutrition program for the food security and wellbeing of indigenous peoples in BC: Kuhnlein, Fediuk, Nelson, Howard, and Johnson (2013) BC studies
- Poverty sustainability and human wellbeing: a social wellbeing approach to the global fisheries crisis Coulthard S, Johnson D, and McGregor J (2011) Global environmental change
- Town of Qualicum beach sea level rise masterplan

- Rosemary Ommer's multi-volume study coastal communities
- 2018 "sector report" Canadian council of professional fish harvesters
- Coastal Zone Canada – annual conferences and reports
- Marchak et al, 1987: the fishery and fish processing industry of BC
- Marine plan partnership climate change impacts and adaptations recommendations Whitney and Conger 2019
- Don Cruickshank Report
- Ecotrust-tbuck "values in north pacific fishery"
- SECOA 2012 DFO
- LNG projects "environmental assessments"

Poster C – Data sources related to coastal communities and well-being (From chart paper on wall, rough notes from post-it notes)

- My health my community survey (Vancouver coastal health pilot at island health)
- Community mapping network cmn.ca
- WCVI risk assessment and habitat status report
- First nation food, nutrition, and environment study
- Regional health surveys
- Salmonexplorer.ca pacific salmon explorer – baseline salmon population and habitat status and data library (not diversity wellbeing but contributes to equity, governance, democratizing management of salmon resources)
- Coastal health index
- Ocean Canada data portal
- Strathcona community health network data profiles
- Cost of eating reports (provincial health services authority)
- Mt Waddington food security assessment/ action plans (Mt Waddington community foods projects)
- Oceanographic data (ONC, environment can buoys, etc.)
- Local health area data profiles (provincial health services authority)
- Strathcona foods security needs assessment (greenways land trust)
- Local health area profiles (island health)
- PHSA/BCCDC (public health services authority) /(BC center for disease control) community health profiles online health data
- Strathcona community health network regional housing needs assessment
- Community foundations of Canada: vital signs (community specific)
- Census data
- State of pacific "PNCIMA" report: "pristine ecosystem"
- Data sources – church records: catholic, Anglican/united, salvation army
- Use – membership, data from co-op stones where they exist
- Ocean modeling forum – governance differences in USA vs CDN
- Haida Gwaii future scenarios workshop
- Fraser river estuary management program database
- ShoreZone mapping system government of BC
- Association of Vancouver island coastal communities
- Coastal opportunities fund (COF) economic outcomes over 10 years
- Clayoquot biosphere trust vital signs – multiple years of reporting
- MERG marineguide.ca mapping decision support tool

Potential Research Topics on Topics Related to Coastal Community Well-being (Rough notes from brainstorm session and project pitches)

Social	- Social and governance indicators for EBM - Integrating human wellbeing into fisheries management - When considering new long scale projects "policy change" there is a need to know and anticipate the unforeseen outcome and effects on community resiliency health - Health=social connection, connection to place, disengaged youth… Need to attract people to communities? Need a common voice/force against common threats. Social media? Coastal identity
Health	- How to decentralized/ move shellfish testing from centers to localities that harvest? - Barriers to local food for coastal diet - How can we establish a coastal communities wellness trust (funds targeted, accessible, collaborative, coordinated? - Linking environmental exposure to improved health outcomes – programs where people can receive medical prescriptions for fresh food (subsidized), time outside, etc. Some pilot programs exist!
Food	- Mapping the real food system –BCFSN, TBuck and Ecotrust tried that - Trade in social value – social impact assessment of rural coastal economies. What is the social fabric of non-monetary trade economy - North coast community supported fishery - How to make more fish available locally - Why is fish not treated as food production like agriculture products and treated with same incentives - Inventory study of consumable species currently underutilized or used AND marketing potential study for commodification of abundant species AND nutritional evaluation for those products and what they could replace or supplement in coastal diets - What are the regulatory barriers to local food production, distribution, and trade. How can safety standards and advertising be maintained while allowing for small scale innovation and flexibility? - Contribution of local food systems (including fisheries) to food security. Food security metrics that do not rely on economic access to market foods as proxy to food access – dietary assessments? Market assessment – where do local foods end up. - Documenting level of reliance of coastal communities on local seafood – also historical - What unorthodox overlooked, neglected or unfashionable food products produced in coastal BC are there that can be developed and marketed for wider consumption
Environment	- Polluter pays – how can foreign and domestic manufacturer, transportation and retail companies be held accountable for plastic debris washing up on BC's beaches? Additional levies on non-inert, non-bio degradable products? - How to decentralized-move water quality/status classification from government to local third party

	• Framework to ID priority focuses for collective effects monitoring • Connecting community members with ongoing citizen science programs and increasing local stewardship • Education/training/market research and development for novel marine species – potential opportunities and barriers for food security
Economic Development	• Canadian kelp market? • Study into economic loss of exporting raw (whole) seafood instead of value-added processing locally • Conceptualizing tide to table marine harvest system • Study on true economic value of commercial fisheries in BC • What is the value of barter/trade/volunteer system in place in communities • Coastal stock exchange • Economic analysis of potential local seafood/small scale * selective fisheries vs status quo export oriented commodified commercial fisheries • How to change corporate culture (DFO) from outside • Explore the potential of cottage industries such as kelp harvesting and drying and marketing especially joint marketing and production of more diverse end products (fertilizer, powder, soaps creams, lasagna) • Fisheries census similar to agriculture censes to get better data on value of fisheries to Canadians • Best use of currently "bad" use fisheries ex: herring, look at case studies elsewhere, look at options for better use, assess potential positive results/impacts/benefits of this switch (all levels ex: food, culture, economic, etc.)
Infrastructure	• How to plan, fund, and build, coastal highway to meet coastal community and mariner's needs • Why are communities excluded from ---- ---- resource industries and cover community infrastructure (Norway) • "tipping points" for communities to persist (ex losing school, changes in ferry services), survey of services available and used in community, how has this changed? • Collaborative approaches for sea level rise, how can larger municipalities help smaller ones. How can small communities be resourced to understand and plan responses to SLR? How can mutually beneficial approaches between adjacent jurisdictions be developed
Cultural	• Proud to fish program • How can local knowledge be gathered be held? Knowledge and story gathering project • Identities project in relation to wellbeing – storytelling video/photo knowledge mobilization The Fishermen's access to THEIR FISHERIES: BC STORYTELLING PROJECT – video / photography *focus in on wellbeing of coastal communities • Documenting cultural/activities/events in communities on BC coast • Increasing social science in fisheries and ocean • How to support more coastal art
Governance	• DFO culture study – public perception of commercial fishing industry in BC study

	• How can stubborn entrenched policy or governance institutions that do not work be uprooted and replaced productively and with minimized conflict • Whose voices are being heard at various levels of governance – how can underrepresented interests be better included? Youth, women, indigenous. • Best governance structure for all coast community interest • Governance: getting started! – readiness criteria first steps to bring people together, approaching govt, practitioner's how to • Synthesize and develop relevant policy actions based on ideas of fishermen re: how to implement FOPO. Recommendations for divesting corporations of licenses, ITQs, etc. • How to bring LEK/TEK into decision making in timely manner • How to manage in rapid SES change • How can local community knowledge be leveraged for policy change? • Working with CCs to articulate a charter for CCs • How do we get different sized orgs (NGOs) to work on different scales and collaborate not compete • How to better connect senior govt decision makers to local community needs. Flexibility/accommodating change in civil service • Issues and needed solutions for fractured jurisdictional and legislative environment rural and coastal regions are hung up in
Education	• How to get more social science in coastal education • Youth leadership training/connecting youth to decision makers and processes to each other • Education about risk to coastal communities should include info about assets and possible solutions -> empowerment to use assets to overcome barriers
Other	• What does a transition away from a colonial wellbeing viewpoint look like
Cross cutting	• Research into alternative aquaculture options C social-environmental priorities • Analyze the cost to tax payers of dealing with outcomes of lost access to fishing of communities. ex health effects, physical and mental etc. • What is the value of natural, cultural social, character of these communities. What is at stake if any of these is lost? Ex oil spill, climate change, outmigration • Economic assessment – what is the $ value of different economic sectors in these communities and what is the potential value of new sectors being developed. Differentiate $ value in community vs leaving community. Put a $ value on local impacts of each industry e.g. wellbeing, conservation, etc. • How to take lessons/ideas from workshops like this and turn them into actionable plans across big special scales with diverse needs/assets/barriers – probably already good models but talk is cheap. How do we walk the talk? • Research into how to create a framework for valuing assets beyond financials (GDP) -ecological economics • How do we measure wellbeing: how do we know if our actions are having an impact on wellbeing? Who needs to know what is

	changing and why do they care? How do we do this with efficiency and vigour
	• Cross cutting- collaborating between orgs. Umpteen million orgs in fisheries space, most working independently. How to ID opportunities for synergies, work generatively achieve more than we can independently
	• How neoliberalism has broken down regional wellbeing and inhibits self-reliance, productivity, regional jobs/food/health security etc. e.g.: incompatible and destructive systems for food
	• Large community gatherings exploring coastal community wellbeing. Island gathering/central coast gathering: local gov't, NGOs, first nations. Explore issues, identify opportunities
	• Quantifying value of unvalued assets e.g.: social return on investment, value of sectors that are dependent on "pristine coast" (tourism, fishing, food, other resources) return on wellbeing of industry within CCs
	• The opportunity cost of allowing our fisheries to continue on current path vs the multitude of benefits at local, BC, national level from new policy framework that prioritizes local control and benefit (first nations, adjacent communities, harvesters, etc.)
	• Assess wellbeing of CCs over time (surveys, interviews, summaries of existing data)
	• What aspects of wellbeing are most important to different communities/stakeholders/sectors/subsets of communities
	• How can we measure and track our collective impacts toward or away from thriving coastal communities.
	• Mapping of changes of wellbeing in coastal communities
	• State of coastal communities report, human wellbeing, census data, plus other.
	• Rural-urban connectivity? What are the social, ecological, economic connections that link rural and urban areas? How can these strengthen or hinder wellbeing? How can they support wellbeing?
	• The value of rural CCs to BC and Canada – "why this matters" must be current, compelling, live in the minds of all British Columbians and Canadians
	• Develop sharing platforms (technology) for community sharing of climate change adaptation strategies.