

Fishing for a Future

Understanding access issues and wellbeing among independent fish harvesters in British Columbia, Canada



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Executive Summary

This report summarizes the results of a survey conducted with active and independent fish harvesters in British Columbia (BC) in 2019. The survey was conducted as part of the 5-year OceanCanada Partnership, which is a SSHRC funded research project at the University of British Columbia that was designed to help Canadian society prepare and plan for the challenges that lie ahead for our coastal and ocean social-ecological systems. A team of researchers and practitioners involved in the OceanCanada Partnership collaborated to develop and implement a survey to better understand issues related to access and wellbeing of independent fish harvesters from coastal communities in BC. The survey was conducted with 118 fish harvesters along the BC coast during the spring and summer of 2019.

The quantitative questions in the survey focused on understanding participants' perceptions of: a) life satisfaction, satisfaction with fishing, and human wellbeing, b) perceptions of capacities to fish (physical, human, social, cultural, political and financial assets) to fish, and c) perceptions of fishing access rights (harvesting, entrance, transferability, security of and protection of). Most survey participants were fairly satisfied with their life overall. They were also quite satisfied with their life as a fish harvester and the non-economic benefits they received from being a fish harvester, but their level of satisfaction with the economic benefits that they received from fishing was lower and more varied. In terms of human wellbeing, survey participants were mostly quite satisfied with health, social, and cultural aspects of their lives and somewhat satisfied with their overall level of wealth. However, they were relatively unsatisfied with their ability to have a voice in decision-making and their ability to safeguard fisheries livelihoods for future generations. Analysis of participants' capacities to fish showed that participants generally perceived: strengths in the areas of physical, human and cultural assets; varied status in the areas of social and financial assets; and weaknesses in the areas of political assets. The status and security of fishing access rights were also perceived poorly overall, with the exception of transfer rights.

The qualitative and open-ended questions in the survey focused on a) issues facing fish harvesters, b) proposed solutions to those issues, and c) individual and group actions to maintain or increase access. Participants identified six main challenges facing fish harvesters: access, quota and licensing; governance and management; competition with other fishing groups; environmental factors; fish farms; and marine protected areas. The most important actions or solutions that participants identified to address those challenges included: protecting and improving access rights; better and more inclusive management; fair treatment for all groups; and, environmental restoration and management. Finally, participants identified the following actions that fish harvesters and their organizations currently take to maintain or gain access: maintenance and preparation; non-political networking and group involvement; political engagement and advocacy; augmenting licenses or quota; diversifying and intensifying fishing activities. However, many participants also reported feeling powerless or that their organizations were unable to make a difference.

The survey results presented in this report are relevant to fisheries allocation and management efforts on the Pacific coast of Canada. The results provide insights into fish harvesters' perceptions of their life satisfaction and wellbeing, access capacities and rights, perceived challenges and proposed solutions, and actions to maintain or increase access. These results highlight a number of key issues for governments and fisheries managers to tackle, which include: 1) improving participation in fisheries decision-making and management, 2) addressing significant and ongoing challenges related to license and quota ownership, and 3) creating opportunities for the next generation to enter fisheries. Attending to these issues related to the human dimensions of fisheries is a key part of managing Canadian fisheries for the wellbeing and viability of fish harvesters and coastal communities.

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Introduction and Background

Fishing can be both a rewarding and a challenging way of life. In British Columbia (BC), fishing has historically provided many jobs, supported many families, and defined many coastal communities. In recent years, there have been many challenges for independent fish harvesters including increased pressure on resources, climate change, declining stocks and increased regulations. The number of fishing jobs has decreased, community infrastructure and processing facilities have declined, and coastal communities have suffered from these losses (Bennett & Eadie, 2019; Ommer & Team, 2007; Stocks, 2016). Taken together, these pressures hold potential implications for wellbeing within coastal communities and the very ability for coastal communities to persist (Breslow et al., 2016; Ommer & Team, 2007). There is thus a need to consider what actions can be taken to support local wellbeing and the viability of coastal communities. Furthermore, the presence of thriving fisheries and communities on the coast is important for Canadian society – as they can strengthen rural economies and rural-urban dynamics, support robust food systems and economies, be the eyes on the longest national coastline in the world, be first responders in the case of emergencies, and be active stewards of the marine environment (Bennett et al., 2018; Ommer & Team, 2007).

One significant and growing challenge that has been identified for fish harvesters in BC is access – which can be defined as the ability of fish harvesters to use and benefit from available marine resources (Bennett et al., 2018; Ecotrust Canada & T. Buck Suzuki Foundation, 2018; Edwards, 2019; Pinkerton & Edwards, 2009; Robertson et al., 2014; Standing Committee on Fisheries and Oceans, 2019). However, there are still significant gaps in our knowledge about access issues in BC – including understanding the status, the drivers and the outcomes of access issues. The lack of a comprehensive knowledge base about these issues can undermine our ability to make informed programmatic decisions and policy recommendations to address access issues in BC fisheries and to promote wellbeing within coastal communities.

To better understand these topics, over the past couple of years, a team of researchers and practitioners involved in the OceanCanada Partnership have collaborated as part of a working group to better understand access issues and potential solutions. The 5-year SSHRC-funded OceanCanada Partnership project at UBC is designed to help Canadian society prepare and plan for the challenges that lie ahead for our coastal and ocean social-ecological systems. One initiative of the Access Working Group of the OceanCanada Partnership has been to develop and implement a survey of independent fish harvesters in BC.

The overarching goals of this collaboration were:

1. To understand and communicate the issues that are facing BC fish harvesters to academics, practitioners, policy-makers and the public;
2. To identify solutions to the issues facing BC fish harvesters based on evidence about the experience and realities faced by fish harvesters;
3. To forefront the voices and perspectives of fish harvesters and coastal communities in discussions about coastal community access to adjacent marine resources, and solutions to these issues; and,
4. To deliberate on the results of the survey to provide guidance for policy makers about issues that need to be addressed in BC fisheries.

The central questions guiding the survey design were:

- What access issues are being experienced by independent fish harvesters in coastal communities in British Columbia?
- What is the relationship between access and the wellbeing of fish harvesters in coastal communities in British Columbia?

The survey was implemented on piers in coastal communities along the BC coast during the spring and summer of 2019. This report summarizes and discusses the results of the survey. Below, we describe the survey design, methods, implementation and sampling process.



Photo: D.Splichalova

Survey Design, Methods, Implementation and Sample

To understand the aforementioned topics, a quantitative survey was co-designed with a team including academic researchers from the University of British Columbia and the University of Victoria, as well as representatives from T. Buck Suzuki Environmental Foundation, Ecotrust Canada and the Nuu-chah-nulth Fisheries Program. The survey was designed in an iterative fashion during the winter and spring of 2019. This involved developing objectives, brainstorming potential topics, creating questions and indicators, and conducting several rounds of revisions. Subsequently, we tested the survey with fish harvesters, requested their comments and feedback, and refined the survey prior to implementing it. Prior to implementing the survey, a human ethics application was completed and approved through the University of British Columbia.

The following topics were covered in the survey: perceptions of wellbeing, perceptions of resource availability, perceptions of capacity and rights to access resources, and demographics and characteristics of the participants. For further details, the complete survey is provided in the Supplementary Materials of this report.

Surveys were conducted in coastal communities where there are active and independent fish harvesters along the coast of BC during the spring, summer and fall of 2019. The aim was to survey a diverse sample of independent fish harvesters by selecting survey locations that varied using the following criteria: population size, geographic location, proximity to processing facilities, larger and smaller piers, and different fisheries. Expert judgement and guidance was used to select locations where there was thought to be a good number of fish harvesters on Vancouver Island, the North Coast, and the Lower Mainland. Survey participants were convenience sampled, based on availability and willingness to participate in the survey. Our sample focused only on active and independent fish harvesters (hereafter “fish harvesters”), which we define as commercial fish harvesters who are operating their own enterprise. We excluded hired skippers, hired crew, boat owners who are not actively fishing, or license and quota owners who are not actively fishing. Contact with individual fish harvesters was made in person at community or government fishing wharfs. In addition, we added a sample of fish harvesters (n=13) from the T’aaq-wii’hak Fisheries Program of the Nuu-chah-nulth First Nations. These fish harvesters were contacted directly and surveyed by a fisheries technician from the Nuu-chah-nulth Fisheries Department.

To ensure that free and informed consent for participation was clearly and unambiguously sought and given, researchers explained the purpose of the study and provided a copy of the consent form to prospective survey participants when they were initially contacted. Prior to conducting the surveys, participants’ oral consent was ensured and documented.

The locations where fish harvesters were surveyed, and the sample in each location, is included in the table on the following page and in the map (Figure 1). A total of 118 surveys were completed.

All surveys were conducted on paper. Data was then entered and imported into statistical and qualitative analysis software for analysis. Analysis for this report focuses primarily on a descriptive analysis of both the quantitative and qualitative results. Further analysis will be conducted for academic publications.

| Survey Location | Frequency |
|-----------------|-----------|
| Ahousaht | 2 |
| Campbell River | 7 |
| Coal Harbour | 1 |
| Comox | 7 |
| Cowichan Bay | 2 |
| Ditidaht | 2 |
| French Creek | 4 |
| Gold River | 1 |
| Ladysmith | 2 |
| Port Alberni | 13 |
| Port Hardy | 21 |
| Prince Rupert | 20 |
| Sidney | 15 |
| Steveston | 3 |
| Tofino | 4 |
| Ucluelet | 8 |
| Victoria | 6 |
| Total | 118 |

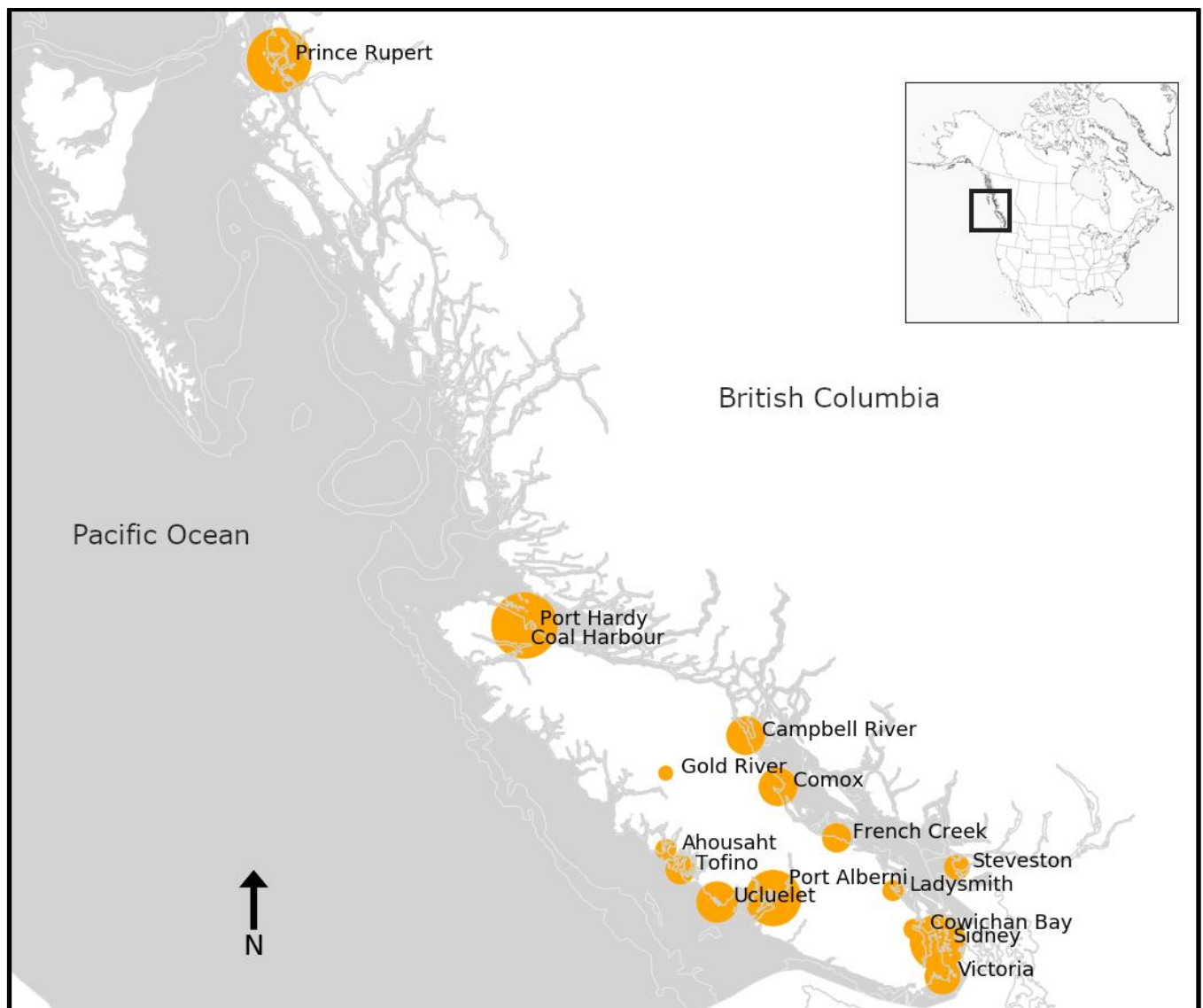


Figure 1 - Map of coastal British Columbia with location of fishing communities where surveys were conducted (size of circle indicates number of surveys in each location)

Quantitative Survey Results

Below we provide a summary of the descriptive analysis of results from the surveys. We identify all related survey questions in brackets for easy reference to the survey in the Supplementary Materials.

Demographics of survey participants

This section summarizes the demographics of the survey sample.

Gender (Q16)

Most participants were male (96%, n=113), with few females (4%, n=5).

Location (Q17, Q18)

Participants lived in 33 different locations, with the most common home towns being Campbell River (n=12), Victoria (n=11), and Port Alberni (n=8). On average participants had lived in those places for 36.6 years (standard deviation=20.3; min=1, max=78).

Origin (Q19)

Most participants were originally from another coastal community in BC (57%, n=67), while others were from the local town (31%, n=37), another part of Canada (4%, n=5), another country (4%, n=5), or a non-coastal community in BC (3%, n=4).

Nationality and citizenship (Q20, Q21)

Almost all were Canadian citizens (96%, n=113) or had permanent residency (2%, n=2). Two were not Canadian citizens, and one did not respond. Most respondents identified their nationality as Canadian (96%, n=113), with several providing First Nations or Indigenous as their nationality (3%, n=3). One each provided their nationality as American, English, Vietnamese, and Finnish.

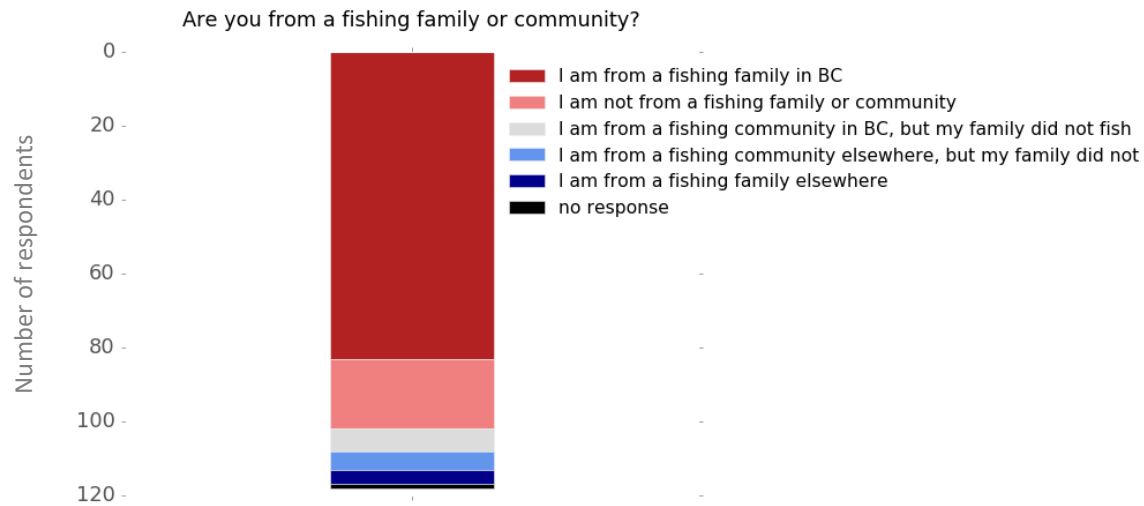
Self-identification as Indigenous (Q22)

About one-fifth of respondents self-identified as Indigenous (20%, n=24). Indigenous participants self-identified as being from the following groups:

| Groups | Frequency |
|----------------------------|-----------|
| Nuu Chah Nulth | 2 |
| Ditidaht | 2 |
| Tseshaht | 2 |
| Tla-O-Qui-Aht First Nation | 2 |
| Dogrib-Cree | 1 |
| Wewaikei First Nation | 1 |
| Hupacasath | 1 |
| Simsham | 1 |
| Mowachaht/Muchalaht | 1 |
| Squamish Nation | 1 |
| Cree Nation | 1 |
| Burrard Band | 1 |
| Namgis | 1 |
| Heiltsuk | 1 |
| Ahousaht | 1 |
| Campbell River Band | 1 |
| Comox Band | 1 |
| Hesquiaht | 1 |
| Ahousaht - Nuuchah Nulth | 1 |

Fishing history (Q24, Q25)

Most (70%, n=83) participants stemmed from a fishing family in BC, whereas 16% (n=19) did not come from a fishing family or community. The remainder were either from a fishing community but not family (4%, n=5), a fishing community elsewhere but not fishing family (4%, n=5), or a fishing family elsewhere (3%, n=4). One participant provided no response.



On average, participants had been a fish harvester for 39.3 years (standard deviation: 14.3).

Demographics (Q26, Q29, Q30)

Most (49%, n=58) participants were older than 60 years of age, followed by 50-59 years (27%, n=32).

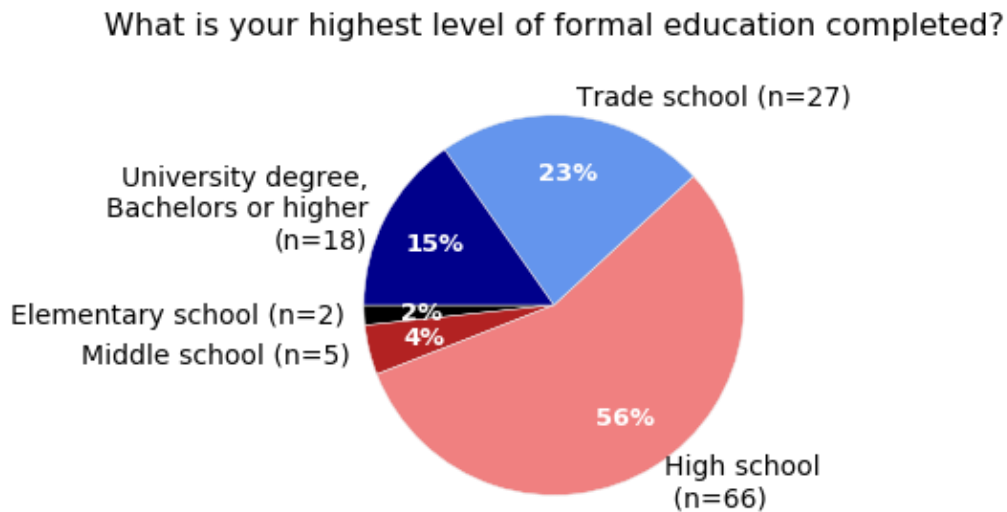
| Age | Frequency |
|-------|-----------|
| 60+ | 58 (49%) |
| 50-59 | 32 (27%) |
| 30-39 | 14 (10%) |
| 40-49 | 12 (12%) |
| 18-29 | 2 (2%) |

Marital status included being married or partnered (n=81), single (n=20), divorced (n=11) and widowed (n=6).

Household size was on average 2.7 people who regularly lived in the household (range=1-9; SD=1.7)

Education and training (Q27, Q28)

High school education was most common amongst participants (56%, n=66), followed by trade school (23%, n=27) and university (15%, n=18).



The majority of participants had also completed a number of certifications or training courses.

| Certificate or Training | Frequency |
|-----------------------------------|-----------|
| Radio | 110 |
| First Aid | 108 |
| Marine Emergency | 98 |
| Vessel Stability | 79 |
| Electronic Navigation | 75 |
| Fishing Vessel Master 1-4 | 65 |
| Small Vessel Operator Proficiency | 53 |
| Dive Training | 29 |
| Watch Keeping Mate | 25 |
| Small Vessel Machine Operator | 19 |
| Master 350 | 10 |
| ChiefMate 150 | 6 |

Seafood consumption and food security (Q32, Q33)

On average, participants' households ate seafood that they or others had personally caught 2.2 times per week (standard deviation = 1.5). Most (88%, n=104) participants never worried about their household not having enough food. Others rarely (n=11), sometimes (n=2), or often (n=1) worried.

Characteristics of survey participants fishing operations

This section focuses on the characteristics of the fishing operations of survey participants.

Fisheries Involvement (Q4)

The fisheries that survey participants were involved with included the following:

| Fisheries Involvement | Frequency |
|-------------------------------|-----------|
| Salmon Troll | 58 |
| Tuna Troll | 40 |
| Prawn shrimp trap | 37 |
| Fisheries Halibut Hook & Line | 36 |
| Salmon Gillnet | 31 |
| Herring Roe Gillnet | 21 |
| Salmon Seine | 17 |
| Lingcod Hook & Line | 17 |
| Rockfish | 16 |
| Tuna International | 10 |
| Herring Roe Seine | 10 |
| Sablefish Hook & Line | 8 |
| Groundfish Trawl | 7 |
| Tuna US waters | 7 |
| Crab | 6 |
| Red Urchin | 4 |
| Shrimp Trawl | 4 |
| Herring Spawn Kelp | 3 |
| Green Urchin Dive | 2 |
| Geoduck Horseclam | 2 |
| Sablefish Trap | 1 |
| Sea cucumber | 1 |
| Euphausiid Trawl | 1 |
| Clam | 1 |
| Sardine | 0 |
| Hake midwater | 0 |
| Dogfish Hook & Line | 0 |
| Other | 9 |

Level of fisheries diversification (Q4cc)

Slightly more than half (n=63, 53.4%) of participants were involved with 1 fishery or 2 fisheries, while 21 participants (17.8%) were involved in 3 fisheries, and 34 participants (28.8%) were involved in 4 or more fisheries. One participant was involved in 13 different fisheries.

| Fisheries Diversification | Frequency | Percentage |
|---------------------------|-----------|------------|
| 1 fishery | 31 | 26.3 |
| 2 fisheries | 32 | 27.1 |
| 3 fisheries | 21 | 17.8 |
| 4 fisheries | 13 | 11.0 |
| 5 fisheries | 8 | 6.8 |
| 6 fisheries | 3 | 2.5 |
| 7 fisheries | 5 | 4.2 |
| 8 fisheries | 3 | 2.5 |
| 9 fisheries | 1 | .8 |
| 13 fisheries | 1 | .8 |
| Total | 118 | 100.0 |

Most Economically Important Fishery (Q6)

The most economically important fishery for the majority of survey participants was salmon (n=70), followed by prawn (n=14), halibut (n=9), tuna (n=6), and shrimp (5).

| Most Economically Important Fisheries | Frequency |
|---------------------------------------|-----------|
| Salmon | 70 (59%) |
| Prawn | 14 (12%) |
| Halibut | 9 (8%) |
| Tuna | 6 (5%) |
| Shrimp | 5 (4%) |
| Lingcod | 3 (3%) |
| Crab | 2 (2%) |
| Geoduck | 1 (1%) |
| Groundfish Trawl | 1(1%) |
| Rockfish | 1 (1%) |
| Sea Urchin | 1 (1%) |
| No Response | 5 (4%) |

Regions of the Coast (Q5)

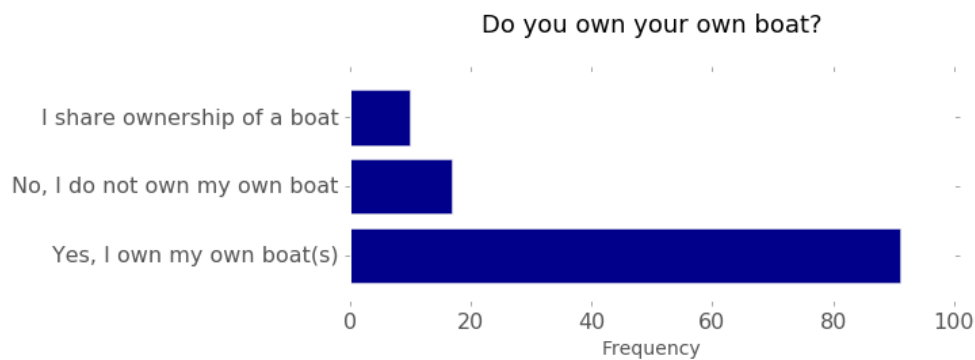
The survey participants fished in all regions of the coast, with the most participants fishing on the North Coast (n=86), West Coast of Vancouver Island (n=84), Northern Vancouver Island (n=73), Central Coast (n=69) and Haida Gwaii (n=69). A small number of fish harvesters fished in International (n=10) and US Waters (n=9).

| Regions | Frequency |
|--------------------------------|-----------|
| North Coast | 86 (73%) |
| West Coast of Vancouver Island | 84 (71%) |
| Northern Vancouver Island | 73 (62%) |
| Central Coast | 69 (58%) |
| Haida Gwaii | 69 (58%) |
| Strait of Georgia | 61 (52%) |
| Juan de Fuca | 39 (33%) |
| International Waters | 10 (8%) |
| US Waters | 9 (8%) |
| Other* | 4 (3%) |

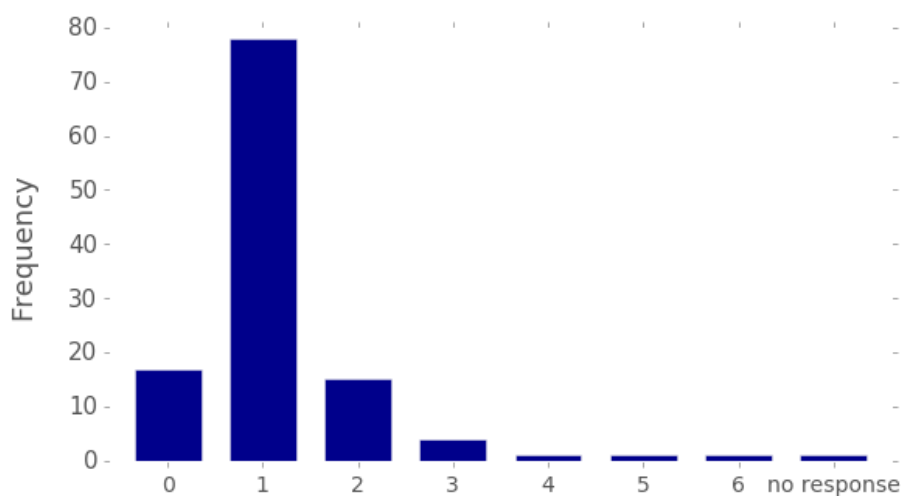
**Other: South-Sidney, Johnson Strait (Area H troll), Alaska, Haro Strait*

Boat ownership (Q34, Q35, Q37)

Most participants owned their boat (77%, n=91), whereas 14% (n=17) did not own a boat, and 8% (n=10) shared a boat.



On average, participants owned 1.2 boats with a range of no boats to 6 boats (standard deviation = 0.9).



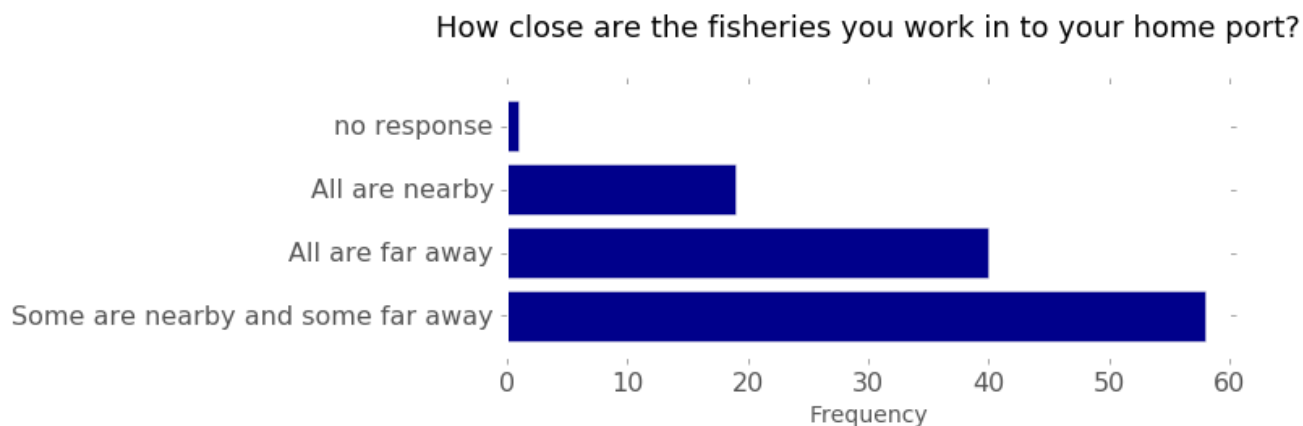
The most common place for participants to keep their boats was Sidney (n=13), followed by Campbell River (n=12) and Comox (n=11).

| Boat locations | Frequency |
|--------------------------|-----------|
| Sidney | 13 |
| Campbell River | 12 |
| Comox | 11 |
| Port Alberni | 7 |
| Sointula | 6 |
| Port Hardy | 6 |
| French Creek | 6 |
| Steveston | 6 |
| Prince Rupert | 4 |
| Maple Ridge | 4 |
| Vancouver | 3 |
| Tofino | 3 |
| Ladysmith | 3 |
| Victoria | 3 |
| Ahousaht | 3 |
| Nitinat Lake | 2 |
| Dodge Cove | 2 |
| Ucluelet | 2 |
| False Creek | 1 |
| Prince Rupert/Port Hardy | 1 |

| Boat locations | Frequency |
|------------------------------|-----------|
| Gibsons | 1 |
| Cowichan Bay | 1 |
| Deep Bay | 1 |
| Ucluelet and Port Alberni | 1 |
| Delta | 1 |
| Quathiaski Cove | 1 |
| Tsehum Harbour | 1 |
| Southern Vancouver Island | 1 |
| North Vancouver, False Creek | 1 |
| Sunshine Coast | 1 |
| Richmond, BC | 1 |
| Madeira Park | 1 |
| Deep Bay, Burwok, BC | 1 |
| Gunderson Slough | 1 |
| Ladner | 1 |
| Tsehum Harbor | 1 |
| Gold River | 1 |
| no response | 3 |

Fisheries proximity (Q38)

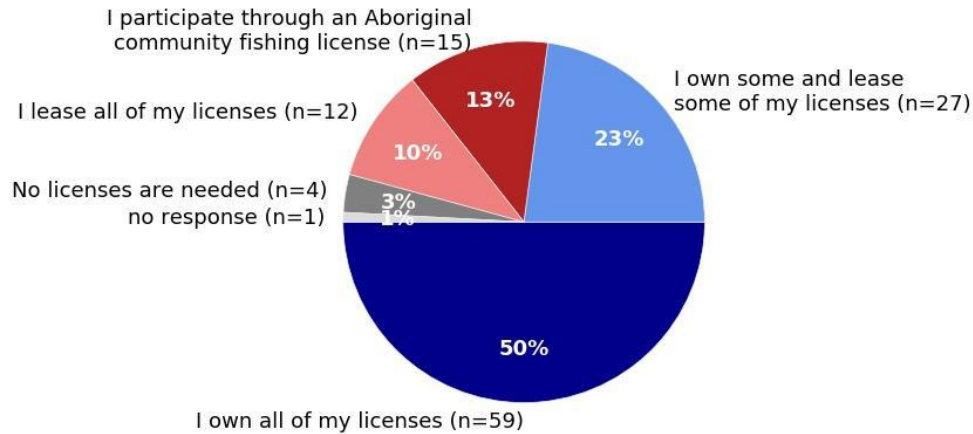
Most (49%, n=58) participants have some fisheries near their home port, followed by all fisheries being far away (34%, n=40). Less participants were involved in fisheries that were all near their home port (16%, n=19). One participant did not respond.



Fishing licenses and quotas (Q39, Q40, Q41)

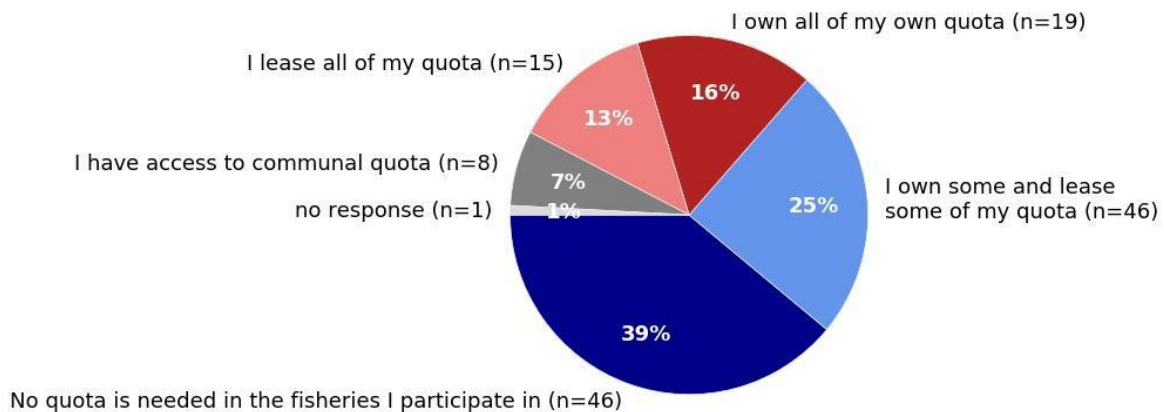
Participants' ownership or leasing of licenses was as follows: 50% owned all of their licenses, 23% owned some and leased some of their licences, 13% participated through an Aboriginal community fishing license, 10% leased all of their licenses, and 3% did not need a license.

Do you own or lease your license(s)?



While quota were not required by many participants (n=46, 39.3%), the rest of the participants varied in whether they owned and/or leased quota:

Do you own or lease your quota(s)?



Co-venture agreements were uncommon amongst participants – yet 21 participants still had co-venture agreements with family, fishing companies, retired fish harvesters, or the bank:

| Co-venture agreement | Frequency |
|-------------------------|-----------|
| No co-venture agreement | 94 (80%) |
| With family | 11 (9%) |
| With fishing company | 7 (6%) |
| With retired fisher | 3 (3%) |
| With bank | 2 (2%) |
| No response | 1 (1%) |

Financial aspects of fisheries (Q42, Q43)

Over the past 5 years, the financial feasibility of participants' fishing operations varied – but most (78.6%) felt that their operations were somewhat profitable (n=75) or very profitable (n=17):

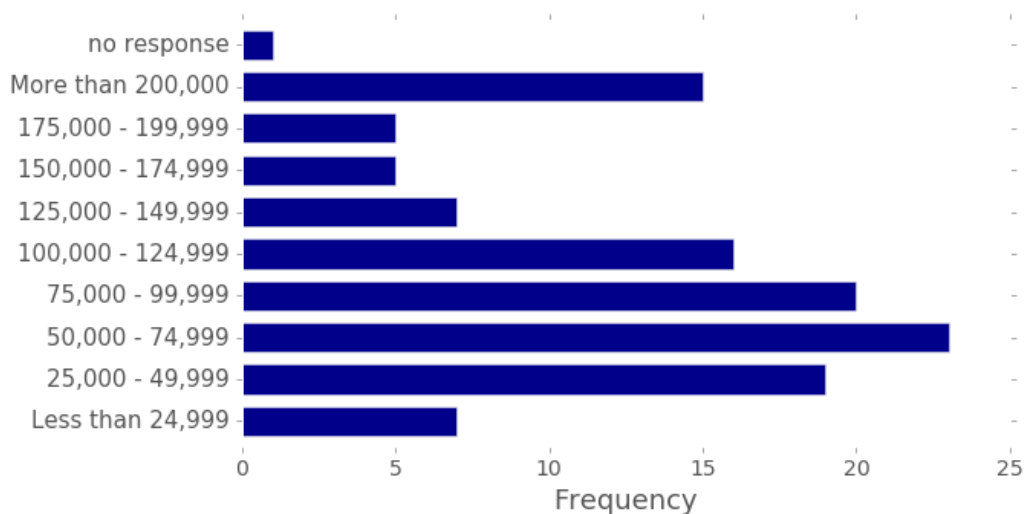
| Financial feasibility | Frequency |
|------------------------|-----------|
| Very profitable | 17 (14%) |
| Somewhat profitable | 75 (64%) |
| Barely makes ends meet | 10 (8%) |
| Somewhat unprofitable | 11 (9%) |
| Very unprofitable | 4 (3%) |
| no response | 1 (1%) |

Most participants had no debt, but others had challenges making their payments:

| Debt | Frequency |
|--|-----------|
| No Debt | 82 (69%) |
| Sometimes challenging to make payments | 20 (17%) |
| Easily make debt payments | 15 (13%) |
| Always difficult to make payments | 1 (1%) |

Income and employment sources (Q44, Q45, Q46)

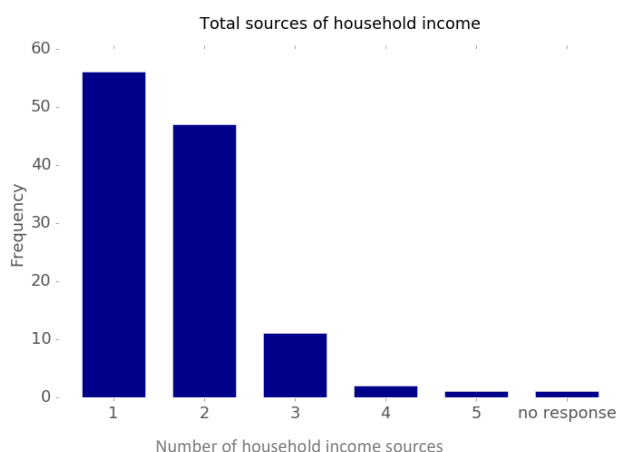
Participants had a quite varied range of annual income from all sources (after expenses, before taxes):



| Annual income from all sources | Frequency |
|--------------------------------|-----------|
| Less than 24,999 | 7 (6%) |
| 25,000 - 49,999 | 19 (16%) |
| 50,000 - 74,999 | 23 (19%) |
| 75,000 - 99,999 | 20 (17%) |
| 100,000 - 124,999 | 16 (14%) |
| 125,000 - 149,999 | 7 (6%) |
| 150,000 - 174,999 | 5 (4%) |
| 175,000 - 199,999 | 5 (4%) |
| More than 200,000 | 15 (13%) |
| no response | 1 (1%) |

The average percentage of participants' annual income from fisheries was 81.9% (standard deviation = 25.3%), with 53.4% (n=63) reporting that all of their income came from fisheries.

The total number of sources of household income was most often 1 (n=56) or 2 (n=44). However, there were 18 households that had 3 or more sources of income.



Perceived wellbeing of participants

This section summarizes results from the section of the survey focused on participants' life satisfaction and perceptions of their wellbeing. Self-reported perceptions are central to understandings of subjective wellbeing (Breslow et al., 2016; Phillips, 2006; Woodhouse et al., 2015). Participants responded to a question on overall life satisfaction in addition to questions on their level of satisfaction with specific aspects informed by a multidimensional conceptualization of wellbeing (Biedenweg et al., 2016; Cummins, 2005; Gough & McGregor, 2007; Kaplan-Hallam & Bennett, 2018). The specific aspects of wellbeing that we included in the survey were related to personal satisfaction with wealth, health, food security, safety at work, relationships at work, the quality of home and family life, having a sense of community belonging, levels of community involvement, having a voice in decision-making, having a feeling of freedom, the ability to continue cultural practices, and the ability to maintain fisheries for future generations.

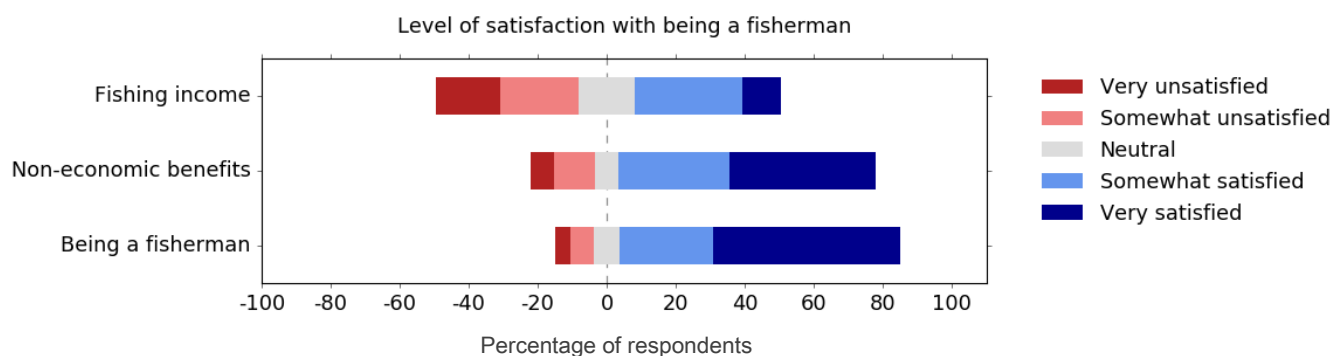
Overall life satisfaction (Q1)

Participants were asked to use a scale from 0 to 10, where zero means you feel “not at all satisfied” and 10 means you feel “completely satisfied” to respond to the following question: Overall, how satisfied are you with your life these days?. Most participants (n=75) ranked themselves as 7 or higher on overall satisfaction with life. Twenty-two (n=22) participants were in the midrange of 4-6. However, 21 participants rated themselves as 3 or lower. The mean score was 6.7.



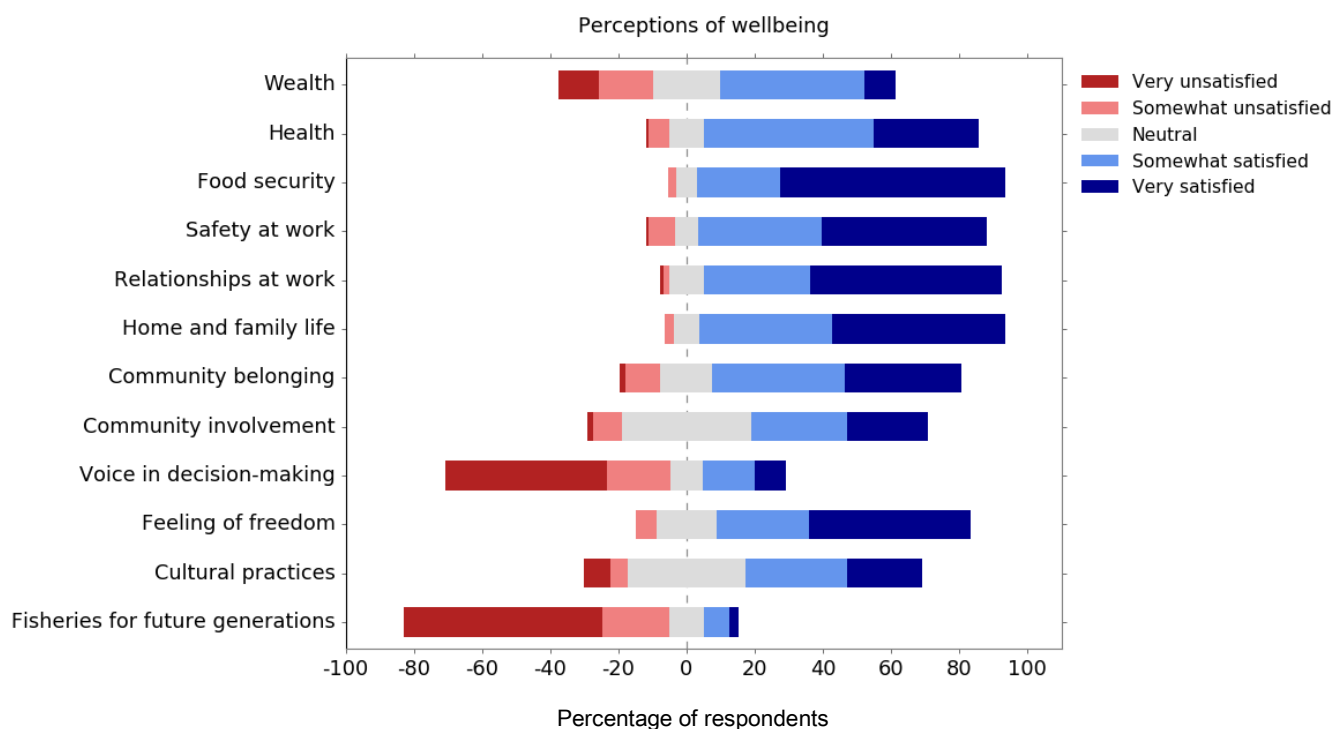
Satisfaction with being a fish harvester (Q2)

We asked participants to respond to the question “How satisfied are you with the following specific aspects of being a fisherman?” on a 5-point Likert scale ranging from “very unsatisfied” (1) to “very satisfied” (5). Participants’ overall satisfaction with being a fish harvester was quite high (mean=4.2), as was their satisfaction with the non-economic benefits (mean=3.9) that they receive from being a fish harvester. However, participants were less satisfied with the level of income (mean=2.9) that they received from being a fish harvester.



Participant Perceptions of Personal Wellbeing (Q3)

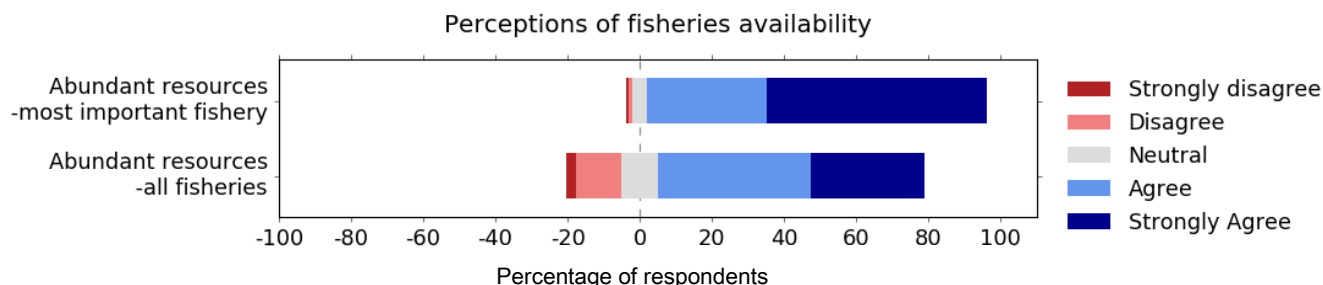
To understand participant perceptions of their wellbeing, they were asked to respond to the question “How satisfied are you with the following specific aspects of your life these days?” on a 5-point Likert scale ranging from “very unsatisfied” (1) to “very satisfied” (5) for a number of different facets of their wellbeing. Overall, participants felt quite satisfied about their “food security” (mean=4.6), “relationships at work” (mean=4.4), “home and family life” (mean=4.4), “safety at work” (mean=4.2), and “health” (mean=4.1). They were somewhat less satisfied, though results were still skewed towards the positive, for “community belonging” (mean=3.9), “community involvement” (mean=3.6), “cultural practices” (mean=3.5) and “wealth” (mean=3.2). However, participants felt less satisfied about having a “voice in decision-making” (mean=2.2) and their ability to ensure there will be “fishing jobs for future generations” (mean=1.7).



Perceptions of resource availability

Resource Availability (Q7)

To understand perceptions of resource availability, we asked participants to respond to the question “To what extent do you agree with the following statements about the availability of fisheries resources?” on a 5-point Likert scale ranging from “Strongly disagree” (1) to “Strongly agree” (5). Most participants agreed or strongly agreed that resources were abundant enough to allow them to have a decent catch in both their “most important fisheries” (mean=3.5) and in “all fisheries” (mean=3.4) that they were involved with.

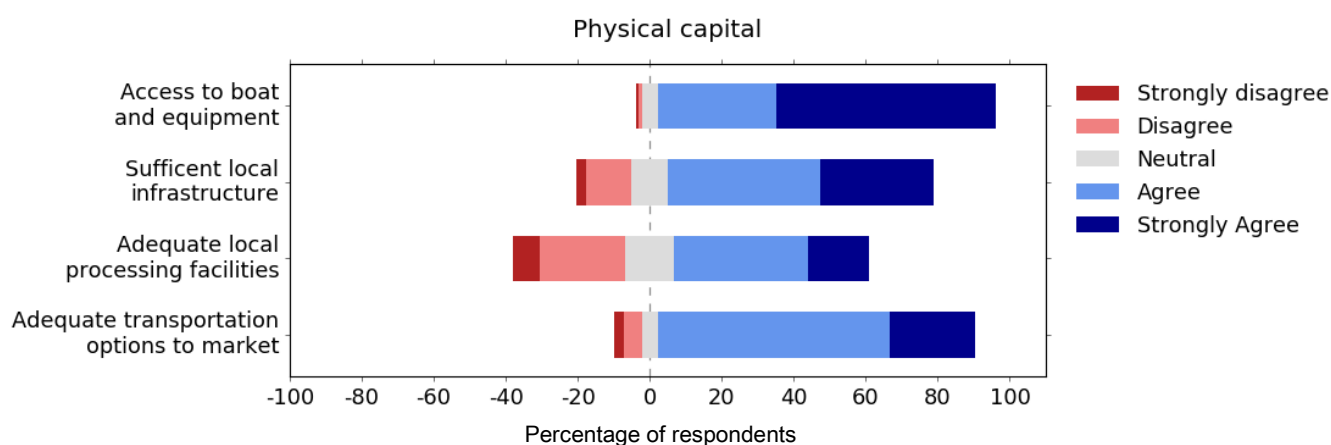


Perceptions of capacity to access

The following section of the report focuses on participants’ perceptions of their personal capacity to access fisheries resources. Capacity to access resources is understood to consist of a number of assets, or capitals, including physical capital, human capital, social capital, cultural capital, political capital, and financial capital (Allison & Ellis, 2001; Bebbington, 1999; N. J. Bennett et al., 2018; Chambers & Conway, 1992; Scoones, 1998). We developed sets of indicators corresponding to each category of capacity to access resources, and then drafted and tested statements representing each indicator. In the survey, we asked participants to rate their level of agreement to these statements on a 5-point Likert scale ranging from “Strongly disagree” (1) to “Strongly agree” (5). All of the questions in this section use this same format. For ease of communication, we have abbreviated the statements in the figures and text below; complete details can be found in the survey in the supplementary materials.

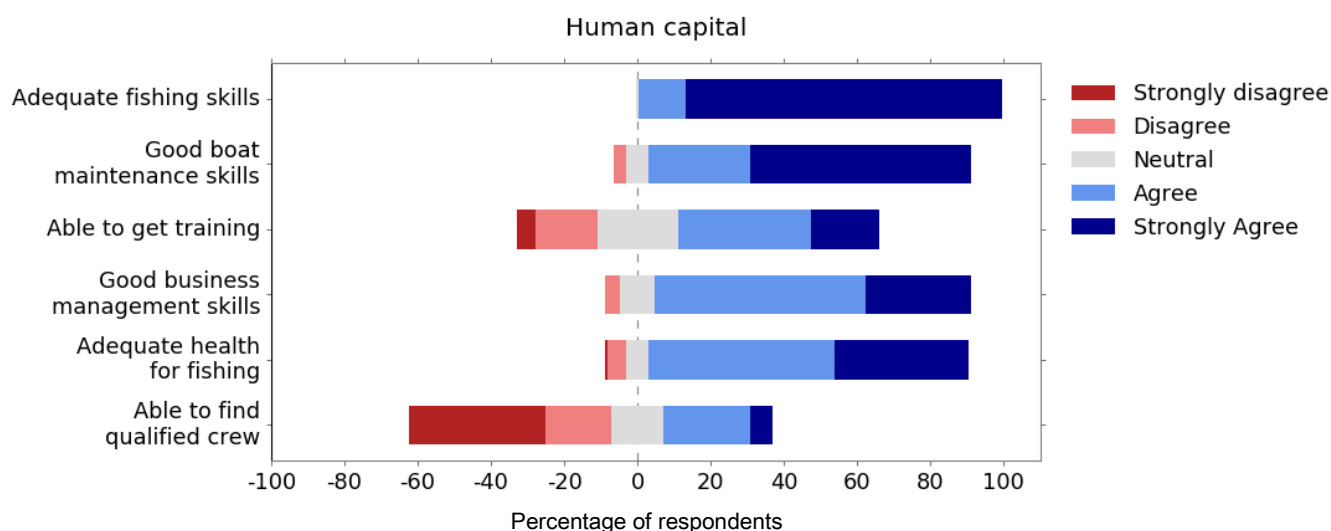
Physical capital (Q8)

Overall perceptions of access to physical capital were quite positive. The majority of participants (n=72, 61%) strongly agreed that they had “access to boat and equipment” that they need for fishing (mean=4.5). Most participants also agreed that there was “sufficient local infrastructure” (mean=3.9) and “adequate transportation options” to get products to market (mean=4.0). They were the least positive about the presence of “adequate local processing facilities” (mean=3.3).



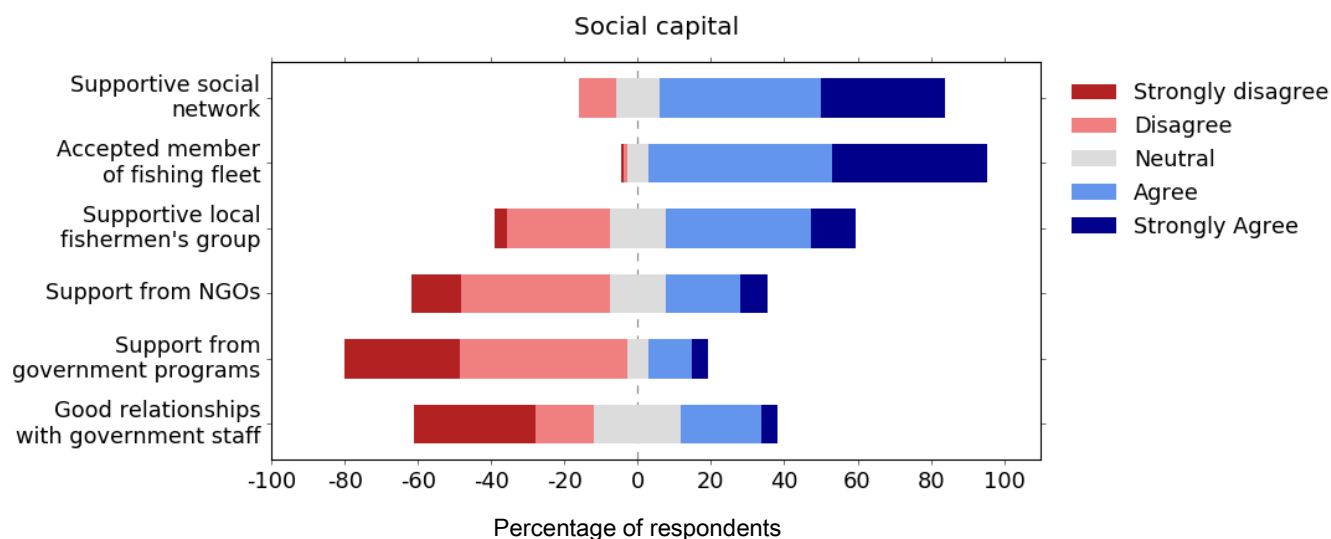
Human capital (Q9)

Survey participants were fairly confident in and satisfied with their own skills, including having “adequate fishing skills” (mean=4.9), “good boat maintenance skills” (mean=4.5), and “good business management skills” (mean=4.1). They also felt that they had “adequate health for fishing” (mean=4.2). Fewer participants agreed that they were easily “able to get training” (mean=3.5). Furthermore, most participants (n=65, 55%) often disagreed or strongly disagreed that they were “able to find qualified crew” (mean=2.4).



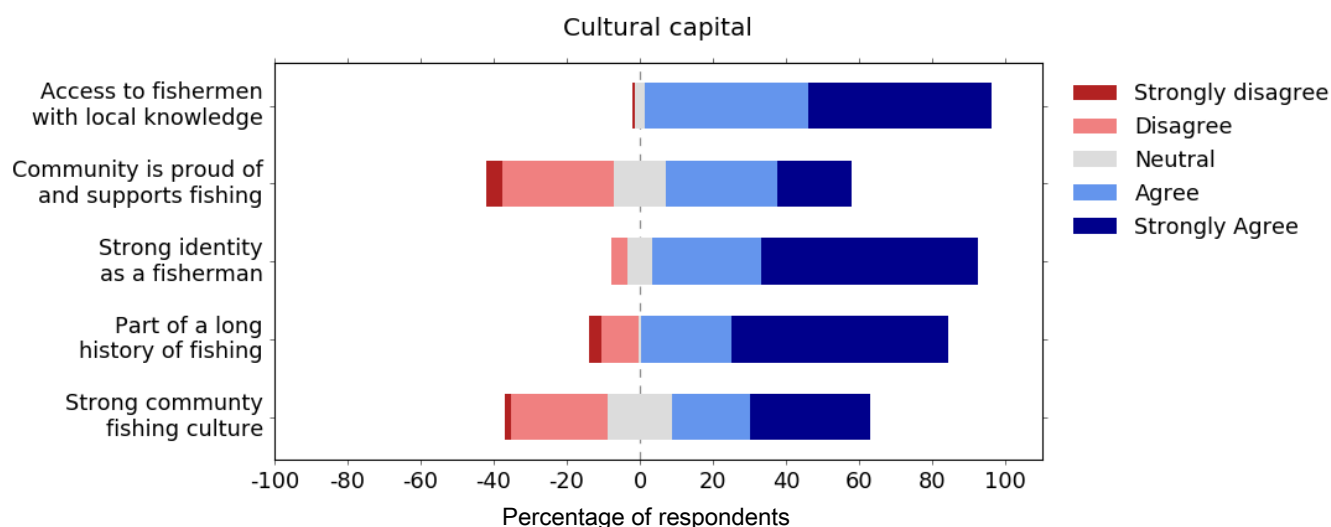
Social capital (Q10)

There were quite varied responses to questions related to individual and local social networks, as opposed to questions related to support from external organizations. On the one hand, most participants agreed or strongly agreed that they had a “supportive social network” (mean=4.0) or that they were an “accepted member of (the local) fishing fleet” (mean=4.3). There were varied levels of agreement with whether participants had a “supportive local fishermen’s group” (mean=3.3). On the other hand, participants most often disagreed that they received “support from (external) NGOs” (mean=2.7), had “good relationships with government staff” (mean=2.5), and received technical or professional “support from government” programs or organizations (mean=2.1).



Cultural capital (Q11)

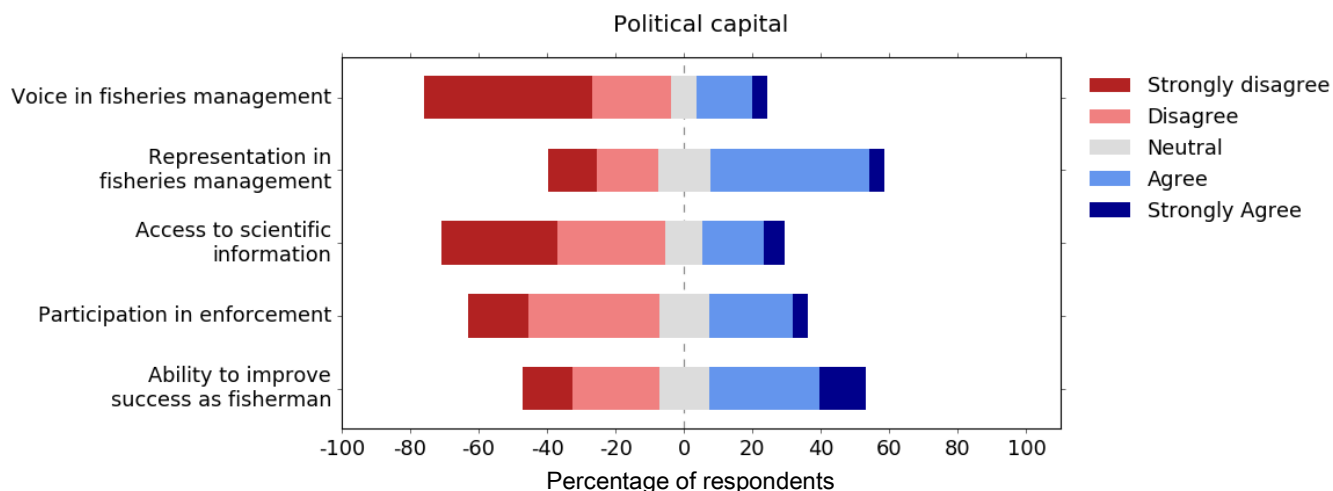
Personal connection to fisheries was strong, with most participants agreeing that they had a “strong identity as a fisherman” (mean= 4.4) and that they were “part of a long history of fishing” (mean=4.3). The majority of participants also felt that they were able to “access fishermen with local knowledge” (mean=4.5) of when, where and how to fish. However, participants did not agree as strongly with statements related to fishing culture in their broader communities, including whether the “community is proud of and supports fishing” (mean=3.3) or the presence of “strong community fishing culture (and traditions)” (mean=3.6).



Political capital (Q12)

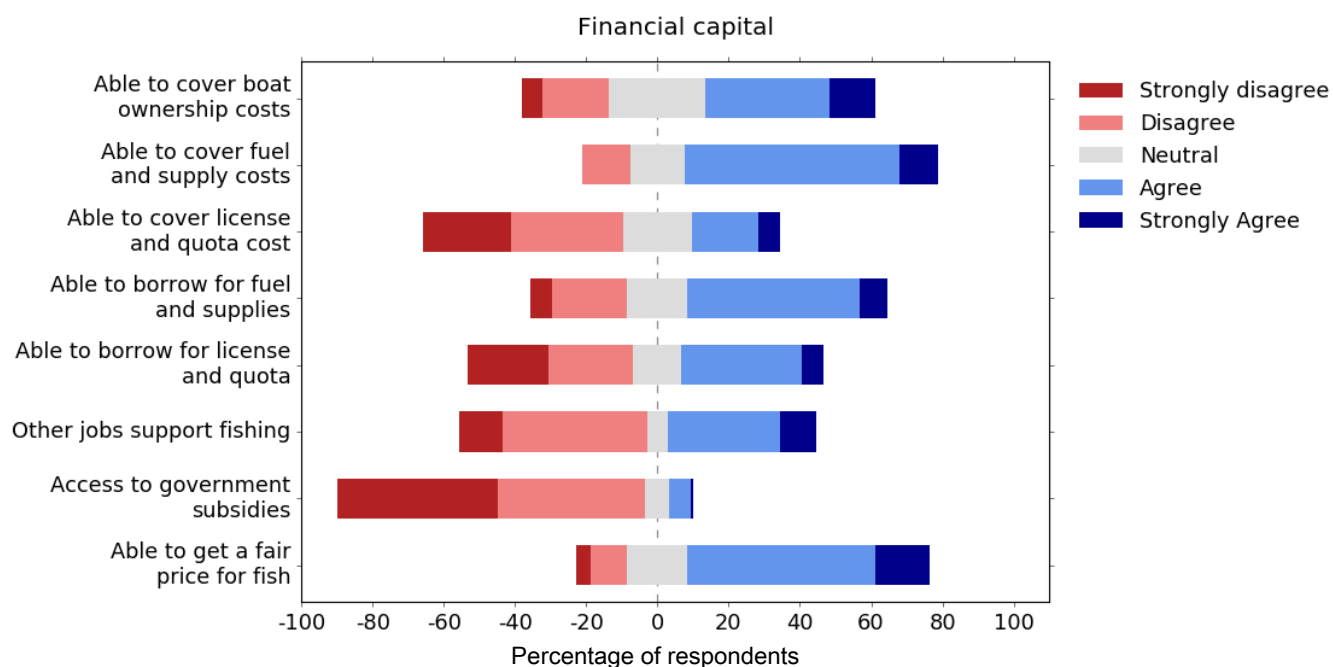
Survey participants’ perceptions of political capital were quite low overall. Two items – “representation in fisheries management” and “ability to improve success as a fisherman” – were just above neutral (mean=3.1).

Meanwhile, the majority of participants disagreed with statements related to their “participation in (surveillance and) enforcement” (mean=2.6), their “access to scientific information” (mean=2.3), and having a “voice in management” (mean=2.0).



Financial capital (Q13)

Financial capacity was rated higher overall than political capital, but lower than most other categories of capacity. Yet, the majority of participants (n=80, 68%) agreed or strongly agreed that they were “able to get a fair price for (their) fish” (mean=3.6). Similarly, most felt they were “able to cover fuel costs” (mean=3.7) and “able to cover boat and ownership costs” (mean=3.3). On the other hand, most disagreed or strongly disagreed (n=66; 56%) to being “able to cover license and quota costs” (mean=2.5). Participants felt it was easier to “borrow money for fuel and supplies” (mean=3.3) than to “borrow money for license and quota” (mean=2.8). Few participants were able to get “access to governance subsidies” (mean=1.8).

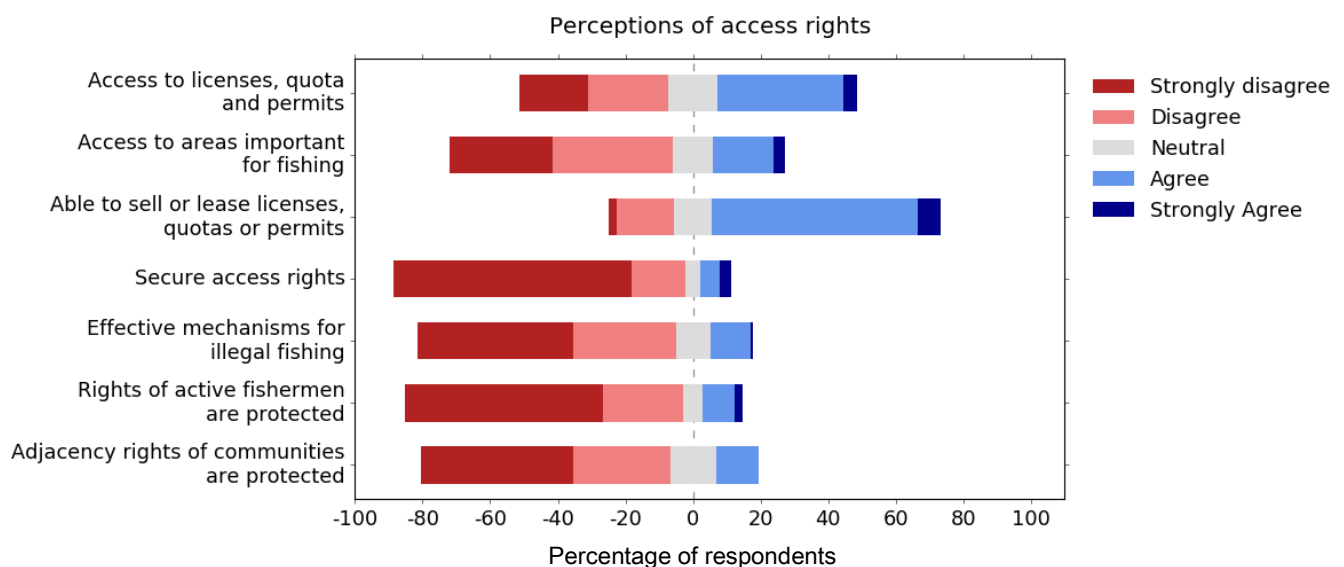


Perceptions of access rights

This next section of the report examines participants' perceptions of their access rights. Fishing access rights are complicated, and interact with other mechanisms of access including the capacities outlined above. There are numerous different rights that fish harvesters can have – including rights to harvest (e.g., allocations, quotas, licenses), rights to use areas (e.g., spatial rights), transferability of rights (e.g., sell or lease), security of rights, and protection of rights (Bennett et al., 2018; Ribot & Peluso, 2003; Schlager & Ostrom, 1992). We drafted and tested statements representing these different rights. Then, we asked participants to rate their level of agreement with these statements on a 5-point Likert scale ranging from “Strongly disagree” (1) to “Strongly agree” (5).

Perceptions of access rights (Q14)

Survey participants mostly agreed that they were “able to sell or lease licenses, quotas or permits” (mean=3.5). They felt somewhat more negative about their “access to licenses, quota and permits” (mean=2.8) and “access to areas important for fishing” (mean=2.3). Overall, statements related to perceptions of security and protection of rights were rated quite low – including “effective mechanisms for (stopping) illegal fishing” (mean=1.9), “adjacency rights of communities are protected” (mean=1.9), “rights of active fishermen are protected” (mean=1.7), and feelings of having “secure access rights” (mean=1.6).

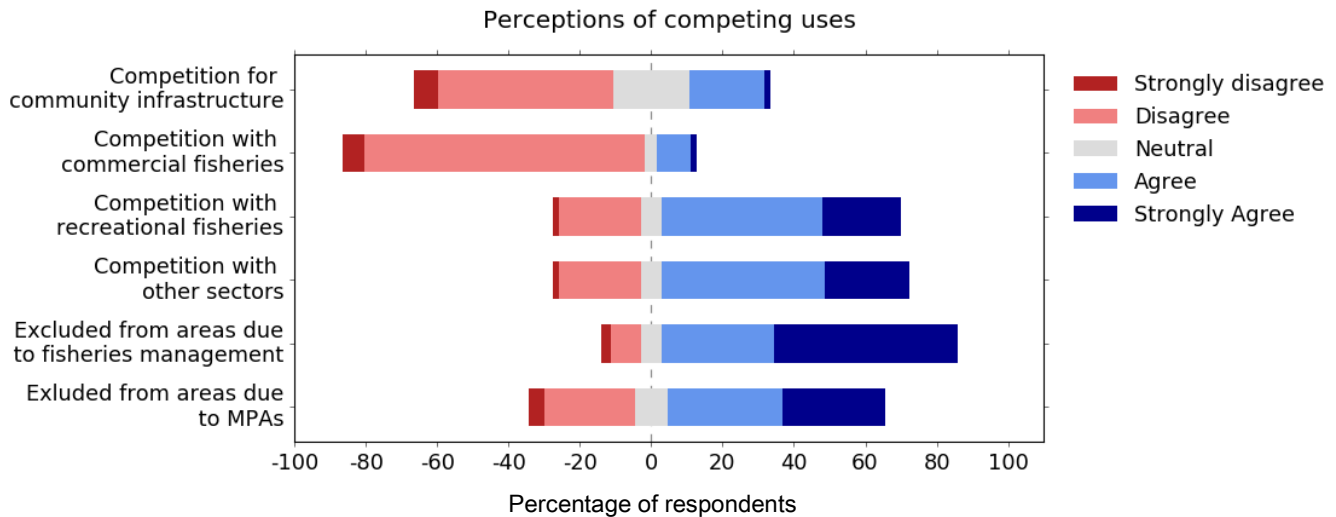


Perceptions of competing uses

The following section of the report examines participants' perceptions of competing uses. Competition occurs over community infrastructure, between different fishing groups, between fishing and other sectors, and with management and conservation activities. We drafted and tested statements relating to each type of competition. Then, we asked participants to rate their level of agreement with these statements on a 5-point Likert scale ranging from “Strongly disagree” (1) to “Strongly agree” (5).

Perceptions of competing uses (Q15)

The majority of participants did not feel that there was “competition for community infrastructure” (mean=2.6) or that there was “competition with commercial fisheries” (mean=2.2). However, the majority agreed that there was “competition with recreational fisheries” (mean=3.6) and “competition with other sectors” (mean=3.7). Similarly, most agreed that they were “excluded from areas due to fisheries management” (mean=4.2) and “excluded from areas due to MPAs” (mean=3.6).



Key outcomes examined by participant characteristics

Below, we compare results for a few key outcomes by a) whether participants are Indigenous or non-Indigenous, b) by age, and c) by level of fisheries diversification. The outcomes we tested include: a) satisfaction with being a fish harvester, b) access to licenses, quota and permits, c) boat ownership, and d) income from fisheries.

Satisfaction with being a fish harvester (Q2c)

Enjoyment of the fishing lifestyle is a key motivation for being a independent commercial fish harvester. We examined satisfaction in three categories (i.e., unsatisfied combining very and somewhat unsatisfied; neutral; and satisfied combining somewhat and very satisfied) as follows:

By Indigenous and non-Indigenous participants (Q23)

| Group | Overall satisfaction with being a fish harvester | | |
|-----------------------|--|-------------|---------------|
| | Unsatisfied (%) | Neutral (%) | Satisfied (%) |
| Non-Indigenous (n=94) | 11 (12%) | 7 (7%) | 76 (81%) |
| Indigenous (n=24) | 2 (8%) | 2 (8%) | 20 (83%) |

By age (Q26: >50 and <50)

| Age group | Overall satisfaction with being a fish harvester | | |
|---------------------------|--|-------------|---------------|
| | Unsatisfied (%) | Neutral (%) | Satisfied (%) |
| Less than 50 years (n=28) | 1 (4%) | 1 (4%) | 26 (93%) |
| 50+ years (n=90) | 12 (13%) | 8 (9%) | 70 (78%) |

Level of fisheries diversification (Q4b)

| Fisheries diversification | Overall satisfaction with being a fish harvester | | |
|---------------------------|--|-------------|---------------|
| | Unsatisfied (%) | Neutral (%) | Satisfied (%) |
| 1 fishery | 4 (13%) | 3 (10%) | 24 (77%) |
| 2 fisheries | 5 (16%) | 1 (3%) | 26 (81%) |
| 3 fisheries | 0 (0%) | 4 (19%) | 17 (91%) |
| 4+ fisheries | 4 (12%) | 1 (3%) | 29 (85%) |

Access to licenses, quotas, permits for viable fishing operations (Q14a)

Having a license, quota, and any necessary permits is essential for viable fishing operations. We examined the ability to access licenses, quota, and permits in three categories (i.e., disagree combining responses of strongly disagree and disagree to the statement “I can access sufficient licenses, quota, and/or permits to have a viable fishing operation”; neutral; and agree combining responses of agree and strongly agree to the statement) as follows:

By Indigenous and non-Indigenous participants (Q23)

| Group | Access sufficiency licenses, quota and/or permits | | |
|-----------------------|---|-------------|-----------|
| | Disagree (%) | Neutral (%) | Agree (%) |
| Non-Indigenous (n=94) | 44 (47%) | 10 (11%) | 40 (43%) |
| Indigenous (n=24) | 8 (33%) | 7 (21%) | 9 (38%) |

By age (Q26: >50 and <50)

| Age group | Access sufficiency licenses, quota and/or permits | | |
|---------------------------|---|-------------|-----------|
| | Disagree (%) | Neutral (%) | Agree (%) |
| Less than 50 years (n=28) | 13 (46%) | 7 (25%) | 8 (29%) |
| 50+ years (n=90) | 39 (43%) | 10 (11%) | 41 (46%) |

Level of fisheries diversification (Q4b)

| Fisheries diversification | Access sufficiency licenses, quota and/or permits | | |
|---------------------------|---|-------------|-----------|
| | Disagree (%) | Neutral (%) | Agree (%) |
| 1 fishery | 14 (45%) | 5 (16%) | 12 (39%) |
| 2 fisheries | 13 (41%) | 3 (9%) | 16 (50%) |
| 3 fisheries | 9 (43%) | 6 (29%) | 6 (29%) |
| 4+ fisheries | 16 (47%) | 3 (9%) | 15 (44%) |

Boat ownership (Q35)

Access to a commercial fishing vessel is essential for a fishing operation. We examined boat ownership (own a fishing boat(s), share ownership, do not own a boat) as follows:

By Indigenous and non-Indigenous participants (Q23)

| Group | Boat ownership | | |
|-----------------------|-----------------|----------|--------------|
| | Own boat(s) (%) | Share | Does not own |
| Non-Indigenous (n=94) | 69 (73%) | 10 (11%) | 15 (16%) |
| Indigenous (n=24) | 22 (92%) | 0 | 2 (8%) |

By age (Q26: >50 and <50)

| Age Group | Boat ownership | | |
|---------------------------|-----------------|---------|--------------|
| | Own boat(s) (%) | Share | Does not own |
| Less than 50 years (n=28) | 23 (82%) | 1 (4%) | 4 (14%) |
| 50+ years (n=90) | 68 (76%) | 9 (10%) | 13 (14%) |

Level of fisheries diversification (Q4b)

| Fisheries diversification | Boat ownership | | |
|---------------------------|-----------------|---------|--------------|
| | Own boat(s) (%) | Share | Does not own |
| 1 fishery | 21 (68%) | 4 (13%) | 6 (19%) |
| 2 fisheries | 25 (78%) | 1 (3%) | 6 (19%) |
| 3 fisheries | 15 (71%) | 4 (19%) | 2 (10%) |
| 4+ fisheries | 30 (88%) | 1 (2%) | 3 (9%) |

Income from fisheries (Q44/Q43)

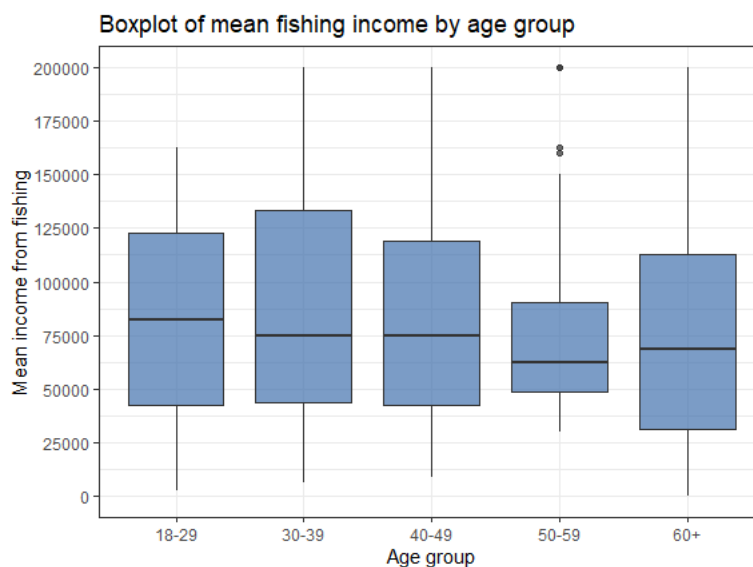
Earning an adequate income from fisheries is crucial to sustaining participation in the industry. For this reason, we examined the annual income from fisheries. These results should be interpreted with caution, however, as we only asked about income by categories. To get the averages, we used the mid-point of the income ranges provided in the response options of the question. For the lowest income category (<\$24,999), we used \$24,000 (likely an overestimate), and for the highest income category (>\$200,000), we used

\$200,000, likely an underestimate. As the survey question was about all income, we then multiplied this response by the proportion of income from fisheries. The results appear as follows:

By Indigenous and non-Indigenous participants (Q23)

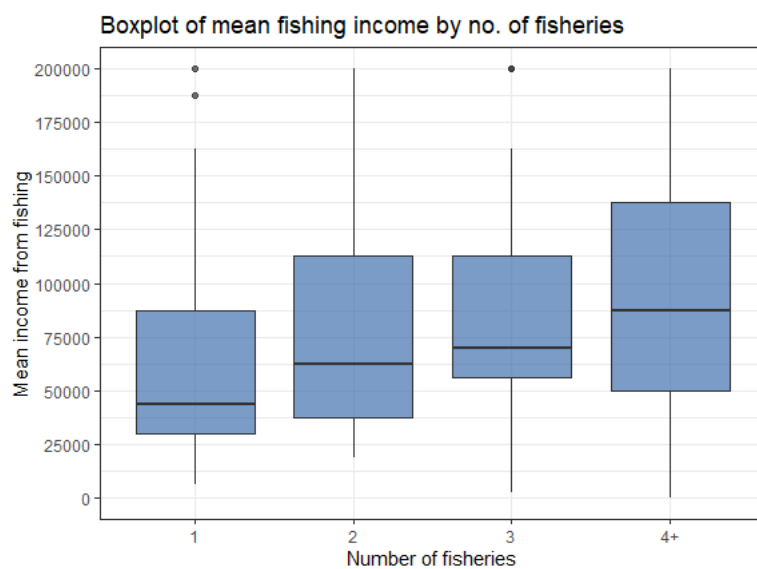
| Group | Annual income from fisheries | | |
|-----------------------|------------------------------|----------|----------|
| | Mean | Median | Standard |
| Non-Indigenous (n=94) | \$85,636 | \$68,750 | \$55,230 |
| Indigenous (n=24) | \$64,835 | \$53,125 | \$50,780 |

By age (Q26: >50 and <50)



| Age group | Annual income from fisheries | | |
|---------------------------|------------------------------|----------|----------|
| | Mean | Median | Standard |
| Less than 50 years (n=28) | \$88,657 | \$75,000 | \$62,682 |
| 50+ years (n=90) | \$79,076 | \$62,500 | \$52,240 |

Level of fisheries diversification (Q4b)



| Fisheries diversification | Annual income from fisheries | | |
|---------------------------|------------------------------|----------|----------|
| | Mean | Median | Standard |
| 1 fishery | \$64,622 | \$43,750 | \$50,815 |
| 2 fisheries | \$80,953 | \$62,500 | \$53,062 |
| 3 fisheries | \$84,638 | \$70,000 | \$52,151 |
| 4+ fisheries | \$94,519 | \$87,500 | \$59,571 |

Qualitative Results

This section of the report briefly summarizes the results of the open-ended questions from the survey. These questions were related to issues facing fish harvesters, their proposed solutions, and individual and group actions that could maintain or increase fisheries access.

Out of the 118 completed questionnaires the interviewers took notes for all answers and in addition 57 were recorded and transcribed. Text from both the transcripts and the notes was then imported into pandas python (McKinney, 2010), an open source data analysis package. We analyzed the responses to these questions in an emergent fashion using open coding as follows. Each interview question was assessed individually. After an initial read of the interviews, we developed an initial set of codes, identified a number of themes supported by word frequencies and counts in python to identify the number of mentions and quotes across the interviews.

Individual actions to increase or maintain access

Within the answers from question 47 - “What actions do you personally take to maintain or increase your overall access to fisheries?” - we found six themes: 1) Maintenance and preparation, 2) Non-Political networking and group involvement, 3) Political engagement and advocacy, 4) Augment licences or quota, 5) Diversify and intensify, and 6) A feeling of powerless (see Table 1).

For the theme ‘Maintenance and preparation’, the majority of participants explained how they put a lot of work into preparing and maintaining their boats and gear to be ready to go fishing when the time comes. In quotes related to the second theme - ‘Non-Political networking and group involvement’ - participants talked about their involvement in fish harvesters’ groups and/or that connecting with other fish harvesters or other user groups helps them to maintain or gain access to go fishing. Quite a few participants also discussed how they became politically involved or engaged with government representatives and fisheries managers to help them gain or maintain their access, which we categorized as the third theme ‘Political engagement and advocacy’. Participants often talked about the fourth theme, ‘Augment licenses or quota’, with most mentioning that they have to be active to understand and participate in the quota and licensing system, how it is very complicated, how they need to work with different people and other user groups to at least have a chance to gain or maintain their rights to access fish. Under the fifth theme, ‘Diversify and intensify’, quotes highlight how participants diversify into other fisheries, intensify their current fishing activities, and work constantly to stay in business. Finally, quite a few participants mentioned ‘Feeling powerless’, expressing how they have little personal agency or influence on fisheries management decisions.

Table 1 - Thematic Coding and Illustrative Quotes from Responses to Question 47 “What actions do you personally take to maintain or increase your overall access to fisheries?”

| Theme | Key words | Quotes |
|--|--|--|
| Maintenance and preparation | Maintain equipment 32 be ready 5 go fish 9 active 7 | “I maintain my boat. Try to stay active as a fisherman.” “Make sure my equipment is good. Study places where I will fish” “I work on my boat, do the work myself.” |
| Non-Political networking and group involvement | talk to people 9 meetings 18 involved 12 groups 10 network 2 | “It's knowing what's going on and what other guys are doing and what other guys are doing wrong as well sometimes.” “Networking, we need to do this a lot.” “I ask the younger generation to find out what the rules are annually.” |
| Political engagement and advocacy | associations 16 member 7 lobby 5 | “Work with native bands to increase access to license and quota.” “Constant communication with DFO for plans with upcoming salmon season.” “Talk with managers and people associated with fisheries to voice what needs doing.” |
| Augment licenses or quota | license: 21 access:20 quota: 16 allocation: 1 access rights: 1 rights: 11 | “Working with native bands to get some licenses to have a little bit more access to the fishery.” “I lease my licenses to gain more access.” “Fish multiple licenses.” “I have my own licenses, I'm luckier than others.” “Protect oceans, try not to pollute, hunt for licenses.” |

| | | |
|-------------------------|---|--|
| | | <p>"I also try to leverage quota from fish companies, that's where I get most of it, probably, and I've invested a lot of my own money, so I have my own quotas with which I can leverage. Work with native bands to increase access to license and quota."</p> <p>"Getting involved in the industry on an organizational level is somewhat self-serving as it gives me greater access to quota and better knowledge about changes in the quota system."</p> |
| Diversify and intensify | <p>work hard 9</p> <p>diversify 1</p> <p>multiple fisheries 6</p> | <p>"I work all the time, work on the off-season, taught myself how to weld."</p> <p>"Keep updated with all the markets."</p> <p>"Diversify -can't be a one-fishery "fisherman."</p> <p>"Convert my boat to a dive boat -urchins."</p> <p>"I fish lingcod because it's a fishery that still has access."</p> |
| Feeling powerless | <p>Nothing 10</p> <p>'We are told what to do' 2</p> | <p>"It's out of my control, if they open, they open I don't have much say in this matter."</p> <p>"We are told when we can fish and that's it."</p> |

Group actions to increase or maintain access

Answers for questions 48 - "What actions have groups that you are part of taken to maintain or increase your access to fisheries?" - were categorized under four main themes: 1) Groups mentioned, 2) Advocacy to increase access, 3) Increase access to information, and 4) Unable to make a difference (Table 2).

Under the first theme, there were six different 'Groups mentioned' including BC Northern Troller's Association or Area F Troller's Association, Gillnetters Association, and the BC Young Fishermen's Network. However, about 20 participants said that they did not belong to any groups. Second, the majority of participants explained that the groups they belonged to were engaged in "Advocacy to increase access". Some participants also mentioned that the group would "increase access to information" through helping them find out fishery and industry news, for example in regard to when it would open or if there had been a

policy change. In general, it was felt that a lack of information was a hindrance to access. Yet, many participants expressed that these associations and groups are “Not able to make a difference” as either the government does not take their input into account or because the group itself does not actually do anything or enough to be useful or create the needed changes.

Table 2 - Thematic Coding and Illustrative Quotes from Responses to Question 48 “What actions have groups that you are part of taken to maintain or increase your access to fisheries?”

| Theme | Key words | Quotes |
|--------------------------------|---|--|
| Groups mentioned | Northern Troll Association: 7 Gillnetters association: 8 Young fishermen: 4 Tuna: 6 Prawn association: 5 Shrimp association: 1 No group: 20 | “We just joined the group for the northern troll just lately.” “I’m a member of the young fisherman's association.” “No groups - keep a low profile.” |
| Advocacy to increase access | Try increase access: 23 Pay a lobbyist: 2 Advocate: 4 | “Requesting more access and propose that we change how we access our fish.” “Gillnet association works on our behalf to get us more access.” “Salmon troll group - talks to DFO, tries to get us more days to fish.” |
| Increase access to information | Try to find out what is going on: 6 | “Try to understand what's going on.” |
| Unable to make a difference | Don’t do anything: 4 DFO doesn’t listen: 11 DFO does what they want: 2 | “There is more organizations, NGOs against fishing than there is fishermen left.” “No groups strong enough to make a change.” “DFO doesn't listen to commercial fishermen.” |

Main issues facing fish harvesters in British Columbia

For question 49 - “What do you think are the main challenges facing fishermen on the Pacific Coast of Canada?” - we identified six different themes: 1) Access, quota and licensing, 2) Governance and management, 3) Competition with other fishing groups, 4) Environmental factors, 5) Fish farms, and 6) Marine Protected Areas (Table 3).

The issue most mentioned by participants was ‘Access, quota and licensing’, with responses focusing on not having access to be able to fish at the right times, the unaffordability and inaccessibility of quotas and licenses to independent fish harvesters, or that other user groups (e.g. recreational and Indigenous fisheries) are given priority over commercial fisheries. A second oft-mentioned issue was related to ‘governance and management’ – with the majority of participants discussing Fisheries and Oceans Canada as one of the biggest challenges, with concerns related to decisions not being based on science, decisions being made without adequate knowledge of local fisheries, decisions not being made locally, and general mismanagement of fish stocks. A further concern was related to ‘Competition with other user groups’, including other fishing groups, as well as other sectors and users of the marine environment. Other ‘environmental factors’ that were identified as issues by participants included a perceived increase in seal and sea lion populations which were preying on and reducing salmon stocks, the ongoing impacts of logging and pollution, and climate change. The issue of ‘fish farms’ was another often mentioned topic. The biggest concern raised was the threat fish farms pose to the environment and especially to wild salmon stocks due to the spread of fish lice. A final theme was ‘Marine Protected Areas’ which participants claimed cover too much area, are not being created in the right places to be effective, and that only exclude commercial fisheries while other groups continue to fish.

Table 3 - Thematic Coding and Illustrative Quotes from Responses to Questions 49 “What do you think are the main challenges facing fishermen on the Pacific Coast of Canada?”

| Theme | Key words | Quotes |
|-----------------------------|---|--|
| Access, quota and licensing | <p>Not enough access: 49</p> <p>Quota: 27</p> <p>License: 24</p> <p>Leasing: 10</p> <p>Armchair fisheries/ownership of licenses and quotas: 5</p> | <p>“Access to the fish is number one, when, where and what.”</p> <p>“Not being allowed to access fish at the time frames when they are worth more money, when there's no biological restraints.”</p> <p>“People pay big bucks and get quota and fishermen cannot access the quota.”</p> <p>“We have been trying for years to gain more access to our fisheries by volunteering our time and money to carry out surveys.”</p> |

| | | |
|---------------------------|---|--|
| | Re-allocation without compensation: 13 | <p>"People owning licenses/quotas that are not fishermen is a huge problem."</p> <p>"I feel it is like we are taking all of the cuts and without compensation."</p> <p>"Natives receive licenses and they just lease them out at whatever price they choose and don't fish them themselves."</p> <p>"You look at the gross and you look what we are paying out for rent and access to get that leased fish."</p> |
| Governance and management | <p>Ottawa instead of BC decisions: 5</p> <p>Mismanagement: 8</p> <p>Political decisions not based on facts: 11</p> <p>Reconciliation: 4</p> <p>DFO: 33 (treats us unfairly, we are last priority, too much monitoring, DFO wants us gone)</p> | <p>"All controlled from Ottawa, and I don't even think that Ottawa know what the name of our ocean is here."</p> <p>"I mean it's politics, nothing to do with the fish stock."</p> <p>"Planes and zodiacs, they use big vessels to control the lines, it's a disgusting how they watch us, like if we were Mary J fishermen."</p> <p>"They say it's all about protecting stuff but in reality, it's all about reconciliation. Nobody will actually say it though, that's the frustrating part for me."</p> <p>"We're treated very poorly, DFO wants to get rid of commercial fishermen."</p> <p>"DFO has commercial fishermen as the lowest priority among the user groups. We are told when we can fish or wait."</p> <p>"If government and DFO quit lying to us we would have a better chance, they say one thing and do something different."</p> |

| | | |
|---------------------------------------|--|---|
| | | <p>"Native reconciliation - shutting areas down not science-based."</p> |
| Competition with other fishing groups | <p>Lodges, recreational, sports: 31</p> <p>Indigenous, native, first nation fisheries: 36</p> <p>Up-river fishery: 5</p> | <p>"Everybody is fighting for a piece of the fisheries. the sports have way more authority than we do. commercial fishermen are the last priority."</p> <p>"Recreational fisheries are allowed to continue fishing while we are closed."</p> <p>"Other users get priority over commercial fishermen - natives and sport fishermen lobby influence DFO."</p> <p>"Reallocating license without compensation only causes more tension and conflict."</p> |
| Environmental factors | <p>Sea lions: 11</p> <p>Seals: 4</p> <p>Pollution: 1</p> <p>Logging: 1</p> <p>Climate change: 2</p> <p>Environmental challenges: 5</p> | <p>"Predator control needs to happen - sea lions, instead of restricting the fishermen."</p> <p>"Sea lions and the seals are eating all the fish."</p> <p>"There always has been challenges as the environment changes."</p> |
| Fish farms | <p>Fish farms: 17</p> <p>Sea lice: 4</p> | <p>"Fish farms have to go."</p> <p>"Sea lice from fish farms is killing our fish stocks."</p> |
| Marine Protected Areas | <p>Parks: 2</p> <p>Marine reserves: MPA: 1</p> <p>Area closure: 9</p> | <p>"The actual areas are being shrunk to postage stamp size, and the fish don't even show there sometimes, that's the problem."</p> <p>"Marine parks are masking reconciliation as conservation."</p> |

Main solutions for issues facing fish harvesters in British Columbia

For Question 50 - “What do you think are the most important actions (e.g., policies or programs by governments or NGOs) that could be taken to address the challenges being faced by fishermen?” - we identified 5 themes: 1) Protect and improve access rights, 2) Better and more inclusive management, 3) Fair treatment for all groups, 4) Environmental restoration and management, and 5) Nothing can be done (Table 4).

Many participants suggested there was a need to ‘Protect and improve local access rights’ though creating and implementing an owner-operator policy that stops quota and licenses being treated as an investment, keeps quota ownership local and within Canada, or at least compensates commercial fish harvesters for taking away their access rights. Another main solution supported by a large number of participants was ‘Better and more inclusive management’. They felt that the voices and perspectives of fish harvesters should be better incorporated into management, and that management decisions should be made locally and with more complete knowledge of resources. In relation to the theme of ‘Fair treatment for all groups’, many participants felt that the government should put more effort into creating and maintaining opportunities for all groups and treating commercial and Indigenous fisheries fairly during the reallocation of resources and equally during the creation of marine protected areas. This sentiment of wanting fair treatment was a sentiment shared by both Indigenous and non-Indigenous survey participants. Another category of solutions that participants suggested were related to ‘Environmental restoration and management’ to address environmental challenges such as habitat degradation, fish farms, and burgeoning sea lion populations. While most participants had solutions to offer, some participants felt that ‘Nothing can be done’.

Table 4 - Thematic Coding and Illustrative Quotes from Responses to Question 50 “What do you think are the most important actions (e.g., policies or programs by governments or NGOs) that could be taken to address the challenges being faced by fishermen?”

| Theme | Key words | Quotes |
|---|---|---|
| Protect and improve local access rights | Owner operator: 7 Compensation for taking away and/or reallocating access: 9 | <p>“I would really like to see owner operator or something like that and I would really like to see fair access for commercial fishermen.”</p> <p>“They need to give us more access to fish or give us compensation for what they've taken from us.”</p> <p>“Also compensation of some kind for commercial fishermen for reallocation of licenses to other user group.”</p> <p>“Quota should be able to be accessed by the people of Canada, should be property of the government.”</p> |

| | | |
|---|---|---|
| <p>Better and more inclusive management</p> | <p>DFO should listen to commercial fishermen: 12</p> <p>Better management: 3</p> <p>Have decisions made in BC not Ottawa: 3</p> <p>Base decision making on facts not political: 2</p> | <p>"Listen to commercial fishermen and don't treat us like criminals."</p> <p>"I would also say that we move the fishery to BC, let BC manage it, not federal."</p> <p>"They (DFO) don't want to see one fish caught really. It's lack of credible science and access to it."</p> <p>"I think there isn't anything that can be done with DFO - they are completely incompetent."</p> <p>"Throw money into science, hire more DFO guys, get rid of paper pushers."</p> |
| <p>Fair treatment for all groups</p> | <p>Address sport fishery, e.g., monitoring: 6</p> <p>First nations should not be given licenses unless they use them to fish: 3</p> <p>Do not mix reconciliation with conservation: 2</p> <p>If MPA nobody should fish: 3</p> <p>Compensation if access given to other user groups: 1</p> | <p>"Other users shouldn't be allowed to fish in MPAs."</p> <p>"Give us a definite allocation, not natives first, sport second and us third"</p> <p>"Treat fishermen fairly. I can access more fishing opportunities because of my native status, but my fellow fishermen are not as fortunate"</p> <p>"Let the government buy back the damn licenses and don't give them to the natives just retire them"</p> <p>"Also compensation of some kind for commercial fishermen for reallocation of license to other user group"</p> <p>"Think they need to separate protection and reconciliation. ... If Canada wants to protect an area for a park or a marine protected area, why would they give it to the natives as reconciliation?"</p> |

| | | |
|--|---|--|
| Environmental restoration and management | <p>Enhancement: 33</p> <p>Habitat restoration: 4</p> <p>Hatcheries: 9</p> <p>Look at Alaska: 13</p> <p><u>Fish farms</u></p> <p>Closed pen only: 1</p> <p>On land: 2</p> <p>Get rid of them: 2</p> <p>Sea lion/seal cull: 4</p> <p>No up-river fishing: 3</p> | <p>"The in-river fishing should be banned, for food, that's fine, but not for sale."</p> <p>"Enhancement is needed, look to Alaska or Washington/Oregon for examples."</p> <p>"Salmon enhancement/hatcheries also need to be looked at for effective conservation measures."</p> |
| Nothing can be done | | <p>"Difficult being a young fisherman, a dying industry."</p> <p>"I've seen the entire industry change for the worse. It's the end and nothing can be done."</p> <p>"Needs to be at the federal government level they have to make a decision whether they want a commercial industry...if it's going to be a complete reallocation of resource...whether to satisfy the native issue or commercial sports lodges access."</p> |

Some concluding comments from participants

In response to the final open-ended question that invited participants to offer any other comments or thoughts, participants often talked about enjoying the fishing lifestyle as represented by the following quotes: “We do it because we love it it's a great lifestyle, being a fisherman.”, “I love the lifestyle of being a fisherman”, and “It was a great life being a fisherman, it was absolutely wonderful”. There was also the recognition that fishing was hard work - “if you want to be a fisherman you have to work hard” - and that being a fish harvester was not going to make you money. These were not barriers that stopped people from returning to fishing – as one participant explained “You can do other jobs that make you money but if you love fishing you love fishing ... you go back fishing because it's in your blood”. Yet, there was also the feeling that the fishing lifestyle was getting harder – “It's getting harder to be a fisherman in BC” – and that the next generation may not have the same opportunities. Finally, one participant emphasized that fish harvesters should be closely connected to the resource so that their fate and the fate of the resource are connected: “Everybody should have access but when the resource is threatened all should suffer together. Prosper together - suffer together.” Throughout the interviews, the passion that participants felt for their occupation as fish harvesters was apparent – as one fish harvester stated: “I just have spoken more than I usually speak in a month.”



Photo: Chelsey Ellis

Conclusion



Photo: D.Splichalova

This report summarizes the results of a survey conducted with 118 active and independent fish harvesters in BC in 2019. The survey results presented in this report provide insights into fish harvesters' perceptions of their life satisfaction and wellbeing, access capacities and rights, perceived challenges and proposed solutions, and actions to maintain or increase access.

The quantitative questions in the survey focused on understanding participants' perceptions of: a) life satisfaction, satisfaction with fishing, and human wellbeing, b) perceptions of capacities to fish (physical, human, social, cultural, political and financial assets) to fish, and c) perceptions of fishing access rights (harvesting, entrance, transferability, security of and protection of). Most survey participants were fairly satisfied with their life overall. They were also quite satisfied with their life as a fish harvester and the non-economic benefits they received from being a fish harvester, but their level of satisfaction with the economic benefits that they received from fishing was lower and more varied. In terms of human wellbeing, survey participants were mostly quite satisfied with health, social, and cultural aspects of their lives and somewhat satisfied with their overall level of wealth. However, they were relatively unsatisfied with their ability to have a voice in decision-making and their ability to safeguard fisheries livelihoods for future generations. Analysis of participants' capacities to fish showed that participants generally perceived: strengths in the areas of physical, human and cultural assets; varied status in the areas of social and financial assets; and weaknesses

in the areas of political assets. The status and security of fishing access rights were also perceived poorly overall, with the exception of transfer rights.

The qualitative and open-ended questions in the survey focused on a) issues facing fish harvesters, b) proposed solutions to those issues, and c) individual and group actions to maintain or increase access. Participants identified six main challenges facing fish harvesters: access, quota and licensing; governance and management; competition with other fishing groups; environmental factors; fish farms; and, marine protected areas. The most important actions or solutions that participants identified to address those challenges included: protecting and improving access rights; better and more inclusive management; fair treatment for all groups; and, environmental restoration and management. Finally, participants identified the following actions that fish harvesters and their organizations currently take to maintain or gain access: maintenance and preparation; non-political networking and group involvement; political engagement and advocacy; augmenting licenses or quota; diversifying and intensifying fishing activities. However, many participants also reported feeling powerless or that their organizations were unable to make a difference.

The results of this survey provide insights that are pertinent to current fisheries policy in Canada and that have implications for fisheries management in BC. First, the recent amendments to the Fisheries Act asks that social, cultural and economic considerations and that the preservation and promotion of independent license holders be taken into account in the management of fisheries (Bill C-68 - An Act to Amend the Fisheries Act and Other Acts in Consequence, 2019). This mandate necessitates evidence from the social sciences about the status of fish harvesters and coastal fishing communities on topics such as wellbeing, access, rights, governance and other topics (Stephenson, Paul, et al., 2018; Stephenson, Wiber, et al., 2018). Second, these results support the conclusions of the recent report of the Standing Committee on Fisheries and Oceans titled “West Coast Fisheries: Sharing Risks and Benefits” regarding the need to address issues related to ownership, access, benefits, new entrants, and participation in fisheries management (Standing Committee on Fisheries and Oceans, 2019). In particular, survey results highlight a number of key issues for government and fisheries managers to tackle, which include: 1) improving participation in fisheries decision-making and management, 2) addressing significant and ongoing challenges related to license and quota ownership, and 3) creating opportunities for the next generation to enter fisheries. Attending to these issues related to the human dimensions of fisheries is a key part of managing Canadian fisheries for the wellbeing and viability of fish harvesters and coastal communities.

References

- Allison, E. H., & Ellis, F. (2001). The livelihoods approach and management of small-scale fisheries. *Marine Policy*, 25(5), 377–388. [https://doi.org/10.1016/S0308-597X\(01\)00023-9](https://doi.org/10.1016/S0308-597X(01)00023-9)
- Bebbington, A. (1999). Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods and poverty. *World Development*, 27(12), 2021–2044. [https://doi.org/10.1016/S0305-750X\(99\)00104-7](https://doi.org/10.1016/S0305-750X(99)00104-7)
- Bennett, N., & Eadie, M. (2019). *The Thriving Coastal Communities Initiative: Towards an action research agenda focused on well-being in coastal communities in British Columbia* (p. 25). T.Buck Suzuki Environmental Foundation & Institute for the Oceans and Fisheries, University of British Columbia.
- Bennett, N. J., Kaplan-Hallam, M., Augustine, G., Ban, N., Belhabib, D., Brueckner-Irwin, I., Charles, A., Couture, J., Eger, S., Fanning, L., Foley, P., Goodfellow, A. M., Greba, L., Gregr, E., Hall, D., Harper, S., Maloney, B., McIsaac, J., Ou, W., ... 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>
- Biedenweg, K., Stiles, K., & Wellman, K. (2016). A holistic framework for identifying human wellbeing indicators for marine policy. *Marine Policy*, 64, 31–37. <https://doi.org/10.1016/j.marpol.2015.11.002>
- Breslow, S. J., Sojka, B., Barnea, R., Basurto, X., Carothers, C., Charnley, S., Coulthard, S., Dolšák, N., Donatuto, J., García-Quijano, C., Hicks, C. C., Levine, A., Mascia, M. B., Norman, K., Poe, M., Satterfield, T., Martin, K. St., & Levin, P. S. (2016). Conceptualizing and operationalizing human wellbeing for ecosystem assessment and management. *Environmental Science & Policy*, 66, 250–259. <https://doi.org/10.1016/j.envsci.2016.06.023>
- Chambers, R., & Conway, G. (1992). *Sustainable rural livelihoods: Practical concepts for the 21st century*. IDS, University of Sussex. <http://catalogue.nla.gov.au/Record/1913332>
- Cummins, R. A. (2005). The Domains of Life Satisfaction: An Attempt to Order Chaos. In A. C. Michalos (Ed.), *Citation Classics from Social Indicators Research: The Most Cited Articles Edited and Introduced by Alex C. Michalos* (pp. 559–584). Springer Netherlands. https://doi.org/10.1007/1-4020-3742-2_19
- Ecotrust Canada, & T. Buck Suzuki Foundation. (2018). *JustTranscations, JustTransitions: Towards Truly Sustainable Fisheries in British Columbia*. Ecotrust Canada.
- Edwards, D. N. (2019). *Addressing questions on the social and economic outcomes of an individual transferable quota fishery* [University of British Columbia]. <https://doi.org/10.14288/1.0385500>
- Gough, I., & McGregor, J. A. (2007). *Wellbeing in Developing Countries: From Theory to Research*. Cambridge University Press.
- Kaplan-Hallam, M., & Bennett, N. J. (2018). Adaptive social impact management for conservation and environmental management. *Conservation Biology*, 32(2), 304–314. <https://doi.org/10.1111/cobi.12985>
- McKinney, W. (2010). *Data Structures for Statistical Computing in Python*. 56–61. <https://doi.org/10.25080/Majora-92bf1922-00a>
- Ommer, R. E., & Team. (2007). *Coasts under stress: Restructuring and social-ecological health*. McGill-Queen's Press.
- Bill C-68—An Act to amend the Fisheries Act and other Acts in consequence, (2019). <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-68/royal-assent>
- Phillips, D. (2006). *Quality of Life: Concept, Policy and Practice*. Routledge.
- Pinkerton, E., & Edwards, D. N. (2009). The elephant in the room: The hidden costs of leasing individual transferable fishing quotas. *Marine Policy*, 33(4), 707–713. <https://doi.org/10.1016/j.marpol.2009.02.004>

- Ribot, J. C., & Peluso, N. L. (2003). A theory of access. *Rural Sociology*, 68(2), 153–181.
- Robertson, A., Sutcliffe, T., Fernandes, D., Reid-Kuecks, B., McIsaac, J., Nobles, D., Moriel, L., Pepper-Smith, K., Brown, D., & Mesmain, M. (2014). *Caught up in catch shares*. Ecotrust Canada and T. Buck Suzuki Environmental Foundation.
- Schlager, E., & Ostrom, E. (1992). Property-Rights Regimes and Natural Resources: A Conceptual Analysis. *Land Economics*, 68(3), 249–262. <https://doi.org/10.2307/3146375>
- Scoones, I. (1998). Sustainable rural livelihoods: A framework for analysis. *IDS Working Paper*, 72.
- Standing Committee on Fisheries and Oceans. (2019). *West Coast Fisheries: Sharing Risks and Benefits* [Report of the Standing Committee on Fisheries and Oceans]. House of Commons Canada. <https://www.ourcommons.ca/Content/Committee/421/FOPO/Reports/RP10387715/foporp21/foporp21-e.pdf>
- Stephenson, R. L., Paul, S., Wiber, M., Angel, E., Benson, A. J., Charles, A., Chouinard, O., Clemens, M., Edwards, D., Foley, P., Jennings, L., Jones, O., Lane, D., McIsaac, J., Mussells, C., Neis, B., Nordstrom, B., Parlee, C., Pinkerton, E., ... Sumaila, U. R. (2018). Evaluating and implementing social–ecological systems: A comprehensive approach to sustainable fisheries. *Fish and Fisheries*, 19(5), 853–873. <https://doi.org/10.1111/faf.12296>
- Stephenson, R. L., Wiber, M., Paul, S., Angel, E., Benson, A., Charles, A., Chouinard, O., Edwards, D., Foley, P., Lane, D., McIsaac, J., Neis, B., Parlee, C., Pinkerton, E., Saunders, M., Squires, K., & Sumaila, U. R. (2018). Integrating diverse objectives for sustainable fisheries in Canada. *Canadian Journal of Fisheries and Aquatic Sciences*. <https://doi.org/10.1139/cjfas-2017-0345>
- Stocks, A. (2016). *State of Coastal Communities in British Columbia 2016* (p. 20). T. Buck Suzuki Environmental Foundation.
- Woodhouse, E., Homewood, K. M., Beauchamp, E., Clements, T., McCabe, J. T., Wilkie, D., & Milner-Gulland, E. J. (2015). Guiding principles for evaluating the impacts of conservation interventions on human well-being. *Phil. Trans. R. Soc. B*, 370(1681), 20150103. <https://doi.org/10.1098/rstb.2015.0103>

Supplementary Materials

The supplementary materials to this report include the following:

- Complete “Fisheries Access Survey”
- Summary Tables of Results for Likert Scale Questions

Fisheries Access Survey

Project: Access to Marine Resources and Coastal Spaces in Canada (RISE File # H17-00580)

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REMINDERS TO RESEARCHER:

- ☐ Introduce yourself
- ☐ Give the participant the consent form
- ☐ Explain the project and how long participation will take
- ☐ Document oral consent before proceeding
- ☐ Ask whether they would like to receive copies of project outputs. Document email on separate paper.
- ☐ Introduce each section of the survey as you go

Background Information

Survey #: _____

Date: _____

Survey Administrator: _____

Location: _____

Survey Section - Perceived wellbeing of fish harvesters

INTRODUCTION: This first section of the survey is about how you perceive your personal wellbeing.

1. Using a scale from 0 to 10, where zero means you feel “not at all satisfied” and 10 means you feel “completely satisfied”: Overall, how satisfied are you with your life these days?. (please circle one number)

Overall, how satisfied are you with your life these days?

**Not at all
satisfied**

**Completely
satisfied**



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|

2. How satisfied are you with the following specific aspects of being a fisherman? (please mark one box in each row)

| Question – Satisfaction | Very Unsatisfied | Somewhat Unsatisfied | Neutral | Somewhat satisfied | Very satisfied |
|---|------------------|----------------------|---------|--------------------|----------------|
| a. How satisfied are you with the level of income you receive from being a fisherman? | | | | | |
| b. How satisfied are you with the level of other non-economic benefits that you receive from being a fisherman? | | | | | |
| c. Overall, how satisfied are you with being a fisherman? | | | | | |

3. How satisfied are you with the following specific aspects of your life these days? (please mark one box in each row)

| Question – Satisfaction | Very Unsatisfied | Somewhat Unsatisfied | Neutral | Somewhat satisfied | Very satisfied |
|--|------------------|----------------------|---------|--------------------|----------------|
| a. Your overall level of income and wealth | | | | | |
| b. Your overall physical condition and health | | | | | |
| c. Your ability to get healthy food for yourself and your family | | | | | |
| d. Your feeling of safety and security at work | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| e. The quality of your relationships with others at work | | | | | |
| f. The quality of your home and family life | | | | | |
| g. Your sense of belonging in your community | | | | | |
| h. Your feeling of being an active member of your community | | | | | |
| i. The extent to which decision-makers consider your point of view and look out for your needs | | | | | |
| j. The extent to which you can choose what you do with your life | | | | | |
| k. Your ability to continue cultural practices and traditions | | | | | |
| l. Your ability to ensure that there will be fishing jobs for future generations | | | | | |

Survey Section - Perceptions of resource availability

INTRODUCTION: This next section of the survey is to understand more about the fisheries that you participate in.

4. Which of the following fisheries are you involved with? Please check all that apply. (Total # of fisheries checked: ____)

- | | |
|--|--|
| <input type="checkbox"/> Clam | <input type="checkbox"/> Herring Roe - Seine |
| <input type="checkbox"/> Crab | <input type="checkbox"/> Herring Spawn on Kelp |
| <input type="checkbox"/> Dogfish - Hook and Line | <input type="checkbox"/> Lingcod - Hook and Line |
| <input type="checkbox"/> Euphausiid - Trawl | <input type="checkbox"/> Prawn and Shrimp - Trap |
| <input type="checkbox"/> Geoduck and Horseclam | <input type="checkbox"/> Red Sea Urchin |
| <input type="checkbox"/> Green Sea Urchin - Dive | <input type="checkbox"/> Rockfish |
| <input type="checkbox"/> Groundfish – Trawl | <input type="checkbox"/> Sablefish - Hook and Line |
| <input type="checkbox"/> Hake – Midwater Trawl | <input type="checkbox"/> Sablefish - Trap |
| <input type="checkbox"/> Halibut - Hook and Line | <input type="checkbox"/> Salmon - Gillnet |
| <input type="checkbox"/> Herring Roe - Gill Net | <input type="checkbox"/> Salmon - Seine |

- ☐ Salmon - Troll
- ☐ Sardine
- ☐ Sea Cucumber
- ☐ Shrimp - Trawl

- ☐ Tuna - Troll
- ☐ Tuna – International Waters (SEC68)
- ☐ Tuna – US Waters (USA68)
- ☐ Other: _____

5. In which regions of the coast do you fish or harvest seafood? Please check all that apply.

- ☐ Haida Gwaii
- ☐ North coast
- ☐ Central coast
- ☐ Northern Vancouver Island
- ☐ West Coast of Vancouver Island
- ☐ Strait of Georgia
- ☐ Juan de Fuca Strait
- ☐ US Waters
- ☐ International Waters
- ☐ Other: _____

6. Which of the fisheries you are involved in is the most economically important to you? (for reference, please make sure it aligns with one of the categories in Q4): _____

7. To what extent do you agree with the following statements about the availability of fisheries resources? (please mark one box in each row)

| Statement – Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|-------------------|----------|---------|-------|----------------|
| a. For the fishery most important to me, there are abundant fish or seafood in this region which allows me to have a decent catch | | | | | |
| b. Across all of the fisheries that I am involved with, there are abundant fish or seafood in this region which allows me to have a decent catch | | | | | |

Survey Section - Perceptions of capacity to access

INTRODUCTION: This next section of the survey is to understand more about your personal capacity and assets as a fisherman.

8. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| e. I have the boat and fishing equipment that I need to be able to fish or harvest seafood | | | | | |
| f. There is sufficient local infrastructure (things like marina, harbour, boat ramp, gear storage, ice facility) to enable me to be a fisherman | | | | | |
| g. There is enough equipment and facilities in the community so that I can process my catch nearby | | | | | |
| h. There are adequate transportation options to enable me to easily get my product to a buyer or market | | | | | |

9. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| i. I have the skills that I need to be able to be able to harvest fish or other seafood | | | | | |
| j. I have the skills that I need or can easily get help to maintain my own boat | | | | | |
| k. It is easy to get the training that I need to be a good fisherman | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| l. I have the skills or am able to get the help I need to manage my fishing expenses and income | | | | | |
| m. My health and physical condition do not get in the way of my ability to go out fishing | | | | | |
| n. I am able to find willing and qualified crew when needed | | | | | |

10. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|-------------------|----------|---------|-------|----------------|
| o. I have a strong network of people that support my ability to be a fisherman | | | | | |
| p. I am accepted as a member of my community's fishing fleet | | | | | |
| q. There is a local fishermen's group or organization that supports my ability to be a fisherman | | | | | |
| r. There are non-governmental organizations outside the community that support me as a fisherman | | | | | |
| s. I receive technical or professional support from government programs or organizations | | | | | |
| t. I have good relationships with staff from government agencies focused on fisheries and ocean management | | | | | |

11. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| u. I have access to fishermen who have local knowledge of when, where and how to harvest fish and other seafood | | | | | |
| v. My community is proud of its fishermen and supports my way of life | | | | | |
| w. My identity as a fisherman is central to who I am | | | | | |
| x. I am part of a long history of people who have fished in this area | | | | | |
| y. Fishing culture and traditions are strong in my community | | | | | |

12. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| z. I am able to have a say in management processes that impact the fisheries that I participate in | | | | | |
| aa. There is a knowledgeable individual or organization that represents my interests in fisheries decision-making | | | | | |
| bb. I can easily access and understand scientific information about the status of stocks and basis for management decisions | | | | | |

| | | | | | |
|---|--|--|--|--|--|
| cc. I can actively participate in fisheries surveillance and enforcement activities in the area | | | | | |
| dd. I feel that I am easily able to take actions that improve my ability to be successful as an independent fisherman | | | | | |

13. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|-------------------|----------|---------|-------|----------------|
| ee. I am easily able to cover the costs associated with owning and maintaining my boat | | | | | |
| ff. I am easily able to cover the costs of fuel and supplies needed to go fishing | | | | | |
| gg. I am easily able to cover the costs of buying or leasing license and quota to be able to have a good catch | | | | | |
| hh. If necessary, I can easily borrow money to cover the costs of fuel and supplies needed to go fishing | | | | | |
| ii. If necessary, I can easily borrow money to cover the costs of license and quota needed to go fishing | | | | | |
| jj. I work other jobs so that I can continue fishing | | | | | |
| kk. I am able to access government subsidies that lower my fishing costs | | | | | |
| ll. I can easily sell the fish or other seafood that I harvest for a fair price | | | | | |

Survey Section - Perceptions of access rights and competing uses

INTRODUCTION: This next section of the survey is to understand more about your perceptions of your access rights and competing uses in the marine environment.

14. Please rate your level of agreement with the following statements (please mark one box in each row)

| Statement –Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|-------------------|----------|---------|-------|----------------|
| a. I can access sufficient licenses, quota and/or permits to have a viable fishing operation | | | | | |
| b. I am able to use the areas of the ocean that are important to me for fishing | | | | | |
| c. I am allowed to sell or lease my fishing licenses, quota and/or permits to others | | | | | |
| d. I do not worry that my access to fish or seafood will be taken away | | | | | |
| e. There are effective mechanisms in place to stop illegal fishing | | | | | |
| f. The rights of active fishermen to continue fishing are protected by law or policy | | | | | |
| g. The rights of coastal communities to adjacent resources is protected in Canadian law and policy | | | | | |

15. Please rate your level of agreement with the following statements (please mark one box in each row)

| Statement –Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|-------------------|----------|---------|-------|----------------|
| a. The number of people using community infrastructure (eg, marina, harbour, boat ramps) interferes with my needs as a fisherman | | | | | |
| b. The total number of other commercial fishing boats on the water interferes with my ability to harvest fish | | | | | |
| c. The total number of recreational fishing boats on the water interferes with my ability to harvest fish | | | | | |
| d. I am excluded from areas that I need for fishing because of other users or activities on the water (eg, tourism, energy, aquaculture, shipping, development, research, etc.) | | | | | |
| e. I am excluded from areas that I need for fishing due to spatial fisheries management measures | | | | | |
| f. I am excluded from areas that I need for fishing because of marine protected areas | | | | | |

I. Survey Section - Demographics and characteristics of fishermen:

INTRODUCTION: This next section of the survey is to understand more about your demographics and the characteristics of your fishing operation.

16. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

17. Where do you live? Town name: _____

18. How many years have you lived there? Please list # of years: _____

19. Where are you from originally?

- ☐ the local town or village (indicated in Q11)
- ☐ another coastal community in British Columbia
- ☐ the province of British Columbia, but not a coastal community
- ☐ another part of Canada
- ☐ another country

20. Canadian citizen (Y/N)?

- ☐ Yes, I am a Canadian citizen
- ☐ No, but I have permanent resident status
- ☐ No, I am not a Canadian citizen

21. What is your nationality (where you were born)?: _____ (country name)

22. How would you describe your ethnic background?: (e.g., Irish, Eastern European, Japanese Canadian)

23. Do you self-identify as Indigenous?

- ☐ No
- ☐ Yes – Group name: _____

24. Are you from a fishing family or community?

- ☐ I am from a fishing family in BC
- ☐ I am from a fishing community in BC, but my family did not fish
- ☐ I am from a fishing family elsewhere
- ☐ I am from a fishing community elsewhere, but my family did not fish
- ☐ I am not from a fishing family or community

25. For how many years have you been a fisherman or fisherwoman? Please list # of years: _____

26. What is your age group?

- ☐ 18-29 years old
- ☐ 30-39 years old
- ☐ 40-49 years old
- ☐ 50-59 years old
- ☐ 60+ years old

27. What is your highest level of formal education completed?

- ☐ Elementary school
- ☐ Middle school
- ☐ High school
- ☐ Trade school
- ☐ University degree – Bachelors or higher
- ☐ None

28. Which of the following certifications or training courses have you completed?

- ☐ Radio operators course
- ☐ First aid
- ☐ Electronic Navigation
- ☐ Marine Emergency Duties
- ☐ Vessel Stability
- ☐ Dive training

- ☐ Small Vessel Machinery Operator Certificate (SVMO)
- ☐ Small Vessel Operator Proficiency (SVOP)^[1]_[SEP]
- ☐ Fishing Vessel Master 1, 2, 3 or 4^[1]_[SEP]
- ☐ Master up to 350 tonne
- ☐ Chief Mate 150 tonne
- ☐ Watch Keeping Mate
- ☐ Other: Please specify _____

29. What is your marital status?

- ☐ Single
- ☐ Married, or in a domestic partnership
- ☐ Widowed
- ☐ Divorced
- ☐ Separated

30. How many people regularly live in your household in total? List #: _____

31. How many non-working dependents live in your household? List #: _____

32. Approximately how many days of the week does your household eat fish or seafood (that you or other fishermen personally caught)? List # (0-7): _____

33. How often do you worry that your household will not have enough food?

- a. Never
- b. Rarely (once or twice a month)
- c. Sometimes (three or ten times a month)
- d. Often (more than ten times a month)

34. Do you own your own boat?

- ☐ Yes, I own my own boat(s)
- ☐ I share ownership of a boat
- ☐ No, I do not own my own boat

35. How many boats do you own? List #_____
36. What is the size of your boat(s)? (if more than one, list size for each one separately)
- a. _____ length in feet
 - b. _____ length in feet
 - c. _____ length in feet
37. Where do you keep your primary boat? Town or port name: _____
38. How close are the fisheries that you work in to your home port?
- ☐ All of the fisheries I work in are nearby to my home port
 - ☐ Some of the fisheries I work in are nearby and some are far away from my home port
 - ☐ All of the fisheries I work in are far away from my home port
39. Do you own or lease your license(s) from others?
- ☐ I own all of my own licenses
 - ☐ I own some and lease some of my licenses
 - ☐ I lease all of my licenses
 - ☐ I participate through an Aboriginal community fishing license
 - ☐ No licenses are needed in the fisheries I participate in
40. Do you own or lease your quota from others?
- ☐ I own all of my own quota
 - ☐ I own some and lease some of my quota
 - ☐ I lease all of my quota
 - ☐ I have access to communal quota
 - ☐ No quota is needed in the fisheries I participate in
41. Do you have a co-venture agreement?
- ☐ With family
 - ☐ With community

- ☐ With a retired fisher
- ☐ With a fishing company
- ☐ With your bank
- ☐ Other: _____
- ☐ None of the above.

42. How would you rate the overall feasibility of your fishing operation (with reference to past 5 years)?

- ☐ My fishing enterprise is very unprofitable
- ☐ My fishing enterprise is somewhat unprofitable
- ☐ My fishing enterprise barely makes ends meet
- ☐ My fishing enterprise is somewhat profitable
- ☐ My fishing enterprise is very profitable

43. How difficult is it to maintain payments on debt related to fisheries?

- ☐ I do not have debt related to fisheries
- ☐ I can easily make payments on my debts related to fisheries
- ☐ It is sometimes challenging to make payments on my debts related to fisheries
- ☐ It is always difficult to make payments on my debts related to fisheries

44. What is your approximate annual income from all sources? (net – after expenses, before taxes)

- ☐ Less than \$24,999
- ☐ \$25,000 - \$49,999
- ☐ \$50,000 - \$74,999
- ☐ \$75,000 - \$99,999
- ☐ \$100,000 - \$124,999
- ☐ \$125,000 - \$149,999
- ☐ \$150,000 - \$174,999
- ☐ \$175,000-\$199,999
- ☐ More than \$200,000

45. Approximately what percentage of your annual income comes from fisheries? _____%

46. Please list all other types of employment or sources of household income? (Total # listed: ____)

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II. Survey Section - Closing open-ended questions

INTRODUCTION: This final section of the survey is to give you the opportunity to answer a few open-ended questions about how fishermen try to maintain access, the challenges facing fishermen and solutions to those challenges, and to ask any questions you might have.

47. What actions do you personally take to maintain or increase your overall access to fisheries?

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48. What actions have groups that you are part of taken to maintain or increase your access to fisheries?

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49. What do you think are the main challenges facing fishermen on the Pacific Coast of Canada? (Open-ended question)

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50. What do you think are the most important actions (e.g., policies or programs by governments or NGOs) that could be taken to address the challenges being faced by fishermen? (Open-ended question)

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51. Do you have any other comments or is there anything else that you want to tell us about? (Open-ended question)

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REMINDER: Thank the person for participating. Ask if they have any questions or concerns.

Summary Tables of Results for Questions on Availability, Access and Rights

- Using a scale from 0 to 10, where zero means you feel “not at all satisfied” and 10 means you feel “completely satisfied”: Overall, how satisfied are you with your life these days?. (please circle one number)

Overall, how satisfied are you with your life these days?

**Not at all
satisfied**

**Completely
satisfied**



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|

| Life satisfaction | Frequency |
|-------------------|-----------|
| 0 | 0 |
| 1 | 7 (6%) |
| 2 | 5 (4%) |
| 3 | 9 (8%) |
| 4 | 3 (3%) |
| 5 | 11 (9%) |
| 6 | 8 (7%) |
| 7 | 18 (15%) |
| 8 | 25 (21%) |
| 9 | 12 (10%) |
| 10 | 20 (17%) |
| Mean | 6.7 |
| St.deviation | 2.7 |

2. How satisfied are you with the following specific aspects of being a fisherman? (please mark one box in each row)

| Question – Satisfaction | Very Unsatisfied | Somewhat Unsatisfied | Neutral | Somewhat satisfied | Very satisfied | No response | Mean | Std. |
|---|------------------|----------------------|-------------|--------------------|----------------|-------------|------|------|
| a. How satisfied are you with the level of income you receive from being a fisherman? | 22 (19%) | 27 (23%) | 19 (16%) | 37 (31%) | 13 (11%) | 0 | 2.9 | 1.3 |
| b. How satisfied are you with the level of other non-economic benefits that you receive from being a fisherman? | 8 (7%) | 14 (12%) | 8 (7%) | 38 (32%) | 50 (42%) | 0 | 3.9 | 1.3 |
| c. Overall, how satisfied are you with being a fisherman? | 5 (4%) | 8 (7%) | 9 (8%) | 32 (27%) | 64 (54%) | 0 | 4.2 | 1.1 |

3. How satisfied are you with the following specific aspects of your life these days? (please mark one box in each row)

| Question – Satisfaction | Very Unsatisfied | Somewhat Unsatisfied | Neutral | Somewhat satisfied | Very satisfied | NO response | mean | Std |
|--|------------------|----------------------|-------------|--------------------|----------------|-------------|------|-----|
| a. Your overall level of income and wealth | 14 (12%) | 19 (16%) | 23 (19%) | 50 (42%) | 11 (9%) | 1 (1%) | 3.2 | 1.2 |
| b. Your overall physical condition and health | 1 (1%) | 7 (6%) | 12 (10%) | 59 (50%) | 36 (31%) | 3 (3%) | 4.1 | 0.9 |
| c. Your ability to get healthy food for yourself and your family | 0 | 3 (3%) | 7 (6%) | 29 (25%) | 78 (66%) | 1 (1%) | 4.6 | 0.7 |
| d. Your feeling of safety and security at work | 1 (1%) | 9 (8%) | 8 (7%) | 43 (36%) | 57 (48%) | 0 | 4.2 | 0.9 |

| | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-----------|-----|-----|
| e. The quality of your relationships with others at work | 1 (1%) | 2 (2%) | 12 (10%) | 37 (31%) | 66 (56%) | 0 | 4.4 | 0.8 |
| f. The quality of your home and family life | 0 | 3 (3%) | 9 (8%) | 46 (39%) | 60 (51%) | 0 | 4.4 | 0.7 |
| g. Your sense of belonging in your community | 2 (2%) | 12 (10%) | 18 (15%) | 46 (39%) | 40 (34%) | 0 | 3.9 | 1.0 |
| h. Your feeling of being an active member of your community | 2 (2%) | 10 (8%) | 45 (38%) | 33 (28%) | 28 (24%) | 0 | 3.6 | 1.0 |
| i. The extent to which decision-makers consider your point of view and look out for your needs | 56 (47%) | 22 (19%) | 11 (9%) | 18 (15%) | 11 (9%) | 0 | 2.2 | 1.4 |
| j. The extent to which you can choose what you do with your life | 0 | 7 (6%) | 21 (18%) | 32 (27%) | 56 (47%) | 2 (2%) | 4.2 | 0.9 |
| k. Your ability to continue cultural practices and traditions | 9 (8%) | 6 (5%) | 41 (35%) | 35 (30%) | 26 (22%) | 1 (1%) | 3.5 | 1.1 |
| l. Your ability to ensure that there will be fishing jobs for future generations | 69 (58%) | 23 (19%) | 12 (10%) | 9 (8%) | 3 (3%) | 2 (2%) | 1.7 | 1.1 |

Perceptions of resource availability

4. To what extent do you agree with the following statements about the availability of fisheries resources? (please mark one box in each row)

| Statement – Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|--|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| a. For the fishery most important to me, there are abundant fish or seafood in this region which allows me to have a decent catch | 9 (8%) | 22 (19%) | 12 (10%) | 49 (42%) | 26 (22%) | 0 | 3.5 | 1.2 |
| b. Across all of the fisheries that I am involved with, there are abundant fish or seafood in this region which allows me to have a decent catch | 6 (5%) | 17 (14%) | 31 (26%) | 50 (42%) | 13 (11%) | 1 (1%) | 3.4 | 1.0 |

Survey Section - Perceptions of capacity to access

INTRODUCTION: This next section of the survey is to understand more about your personal capacity and assets as a fisherman.

5. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| a. I have the boat and fishing equipment that I need to be able to fish or harvest seafood | 1 (1%) | 1 (1%) | 5 (4%) | 39 (33%) | 72 (61%) | 0 | 4.5 | 0.7 |
| b. There is sufficient local infrastructure (things like marina, harbour, boat ramp, gear storage, ice facility) to enable me to be a fisherman | 3 (3%) | 15 (13%) | 12 (10%) | 50 (42%) | 37 (41%) | 1 (1%) | 3.9 | 1.1 |
| c. There is enough equipment and facilities in the community so that I can process my catch nearby | 9 (8%) | 28 (24%) | 16 (14%) | 44 (37%) | 20 (17%) | 1 (1%) | 3.3 | 1.2 |

| | | | | | | | | |
|---|-----------|-----------|-----------|-------------|-------------|---|-----|-----|
| d. There are adequate transportation options to enable me to easily get my product to a buyer or market | 3 (3%) | 6 (5%) | 5 (4%) | 76 (64%) | 28 (24%) | 0 | 4.0 | 0.8 |
|---|-----------|-----------|-----------|-------------|-------------|---|-----|-----|

6. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| mm. I have the skills that I need to be able to harvest fish or other seafood | 0 | 0 | 1 (1%) | 15 (13%) | 102 (86%) | 0 | 4.9 | 0.4 |
| nn.I have the skills that I need or can easily get help to maintain my own boat | 0 | 4 (3%) | 7 (6%) | 33 (28%) | 71 (60%) | 3 (3%) | 4.5 | 0.8 |
| oo.It is easy to get the training that I need to be a good fisherman | 6 (5%) | 20 (17%) | 26 (22%) | 43 (36%) | 22 (19%) | 1 (1%) | 3.5 | 1.1 |
| pp.I have the skills or am able to get the help I need to manage my fishing expenses and income | 0 | 5 (4%) | 11 (9%) | 68 (58%) | 34 (29%) | 0 | 4.1 | 0.7 |
| qq.My health and physical condition do not get in the way of my ability to go out fishing | 1 (1%) | 6 (5%) | 7 (6%) | 60 (51%) | 43 (36%) | 1 (1%) | 4.2 | 0.8 |
| rr. I am able to find willing and qualified crew when needed | 44 (37%) | 21 (18%) | 17 (14%) | 28 (24%) | 7 (6%) | 1 (1%) | 2.4 | 1.4 |

7. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| ss. I have a strong network of people that support my ability to be a fisherman | 0 | 12 (10%) | 14 (12%) | 52 (44%) | 40 (34%) | 0 | 4.0 | 0.9 |
| tt. I am accepted as a member of my community's fishing fleet | 1 (1%) | 1 (1%) | 7 (6%) | 59 (50%) | 50 (42%) | 0 | 4.3 | 0.7 |
| uu. There is a local fishermen's group or organization that supports my ability to be a fisherman | 4 (3%) | 33 (28%) | 18 (15%) | 47 (40%) | 14 (12%) | 2 (2%) | 3.3 | 1.1 |
| vv. There are non-governmental organizations outside the community that support me as a fisherman | 16 (14%) | 48 (41%) | 18 (15%) | 24 (20%) | 9 (8%) | 3 (3%) | 2.7 | 1.2 |
| ww. I receive technical or professional support from government programs or organizations | 37 (31%) | 54 (46%) | 7 (6%) | 14 (12%) | 5 (4%) | 1 (1%) | 2.1 | 1.1 |
| xx. I have good relationships with staff from government agencies focused on fisheries and ocean management | 39 (33%) | 19 (16%) | 28 (24%) | 26 (22%) | 5 (4%) | 1 (1%) | 2.5 | 1.3 |

8. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|----------|-----------|-------------|----------------|-------------|------|-----|
| a. I have access to fishermen who have local knowledge of when, where and how to harvest fish and other seafood | 1 (1%) | 0 | 3 (3%) | 53 (45%) | 59 (50%) | 2 (2%) | 4.5 | 0.6 |

| | | | | | | | | |
|---|-----------|-------------|-------------|-------------|-------------|-----------|-----|-----|
| b. My community is proud of its fishermen and supports my way of life | 5 (4%) | 36 (31%) | 17 (14%) | 36 (31%) | 24 (20%) | 0 | 3.3 | 1.2 |
| c. My identity as a fisherman is central to who I am | 0 | 5 (4%) | 8 (7%) | 35 (30%) | 70 (59%) | 0 | 4.4 | 0.8 |
| d. I am part of a long history of people who have fished in this area | 4 (3%) | 12 (10%) | 1 (1%) | 29 (25%) | 70 (59%) | 2 (2%) | 4.3 | 1.1 |
| e. Fishing culture and traditions are strong in my community | 2 (2%) | 31 (26%) | 21 (18%) | 25 (21%) | 39 (33%) | 0 | 3.6 | 1.2 |

9. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|--|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| f. I am able to have a say in management processes that impact the fisheries that I participate in | 58 (49%) | 27 (23%) | 9 (8%) | 19 (16%) | 5 (4%) | 0 | 2.0 | 1.3 |
| g. There is a knowledgeable individual or organization that represents my interests in fisheries decision-making | 17 (14%) | 21 (18%) | 18 (15%) | 55 (47%) | 5 (4%) | 2 (2%) | 3.1 | 1.2 |
| h. I can easily access and understand scientific information about the status of stocks and basis for management decisions | 40 (34%) | 37 (31%) | 13 (11%) | 21 (18%) | 7 (6%) | 0 | 2.3 | 1.3 |
| i. I can actively participate in fisheries surveillance and enforcement activities in the area | 21 (18%) | 45 (38%) | 17 (14%) | 29 (25%) | 5 (4%) | 1 (1%) | 2.6 | 1.2 |
| j. I feel that I am easily able to take actions that improve my | 17 (14%) | 30 (25%) | 17 (14%) | 38 (32%) | 16 (14%) | 0 | 3.1 | 1.3 |

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| ability to be successful as an independent fisherman | | | | | | | | |
|--|--|--|--|--|--|--|--|--|

10. Please rate your level of agreement with the following statements: (please mark one box in each row)

| Statement – Adequacy/Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| k. I am easily able to cover the costs associated with owning and maintaining my boat | 7 (6%) | 22 (19%) | 32 (27%) | 41 (35%) | 15 (13%) | 1 (1%) | 3.3 | 1.1 |
| l. I am easily able to cover the costs of fuel and supplies needed to go fishing | 0 | 16 (14%) | 18 (15%) | 71 (60%) | 13 (11%) | 0 | 3.7 | 0.8 |
| m. I am easily able to cover the costs of buying or leasing license and quota to be able to have a good catch | 29 (25%) | 37 (31%) | 23 (19%) | 22 (19%) | 7 (6%) | 0 | 2.5 | 1.2 |
| n. If necessary, I can easily borrow money to cover the costs of fuel and supplies needed to go fishing | 7 (6%) | 25 (21%) | 20 (17%) | 57 (48%) | 9 (8%) | 0 | 3.3 | 1.1 |
| o. If necessary, I can easily borrow money to cover the costs of license and quota needed to go fishing | 27 (23%) | 28 (24%) | 16 (14%) | 40 (34%) | 7 (6%) | 0 | 2.8 | 1.3 |
| p. I work other jobs so that I can continue fishing | 14 (12%) | 48 (41%) | 7 (6%) | 37 (31%) | 12 (10%) | 0 | 2.9 | 1.3 |
| q. I am able to access government subsidies that lower my fishing costs | 53 (45%) | 49 (42%) | 8 (7%) | 7 (6%) | 1 (1%) | 0 | 1.8 | 0.9 |
| r. I can easily sell the fish or other seafood that I harvest for a fair price | 5 (4%) | 12 (10%) | 20 (17%) | 62 (53%) | 18 (15%) | 1 (2%) | 3.6 | 1.0 |

Survey Section - Perceptions of access rights and competing uses

INTRODUCTION: This next section of the survey is to understand more about your perceptions of your access rights and competing uses in the marine environment.

11. Please rate your level of agreement with the following statements (please mark one box in each row)

| Statement –Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|--|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| a. I can access sufficient licenses, quota and/or permits to have a viable fishing operation | 24 (20%) | 28 (24%) | 17 (14%) | 44 (37%) | 5 (4%) | 0 | 2.8 | 1.3 |
| b. I am able to use the areas of the ocean that are important to me for fishing | 36 (31%) | 42 (36%) | 14 (12%) | 21 (18%) | 4 (3%) | 1 (1%) | 2.3 | 1.2 |
| c. I am allowed to sell or lease my fishing licenses, quota and/or permits to others | 3 (3%) | 20 (17%) | 13 (11%) | 72 (61%) | 8 (7%) | 2 (2%) | 3.5 | 0.9 |
| d. I do not worry that my access to fish or seafood will be taken away | 83 (70%) | 19 (16%) | 5 (4%) | 7 (6%) | 4 (3%) | 0 | 1.6 | 1.1 |
| e. There are effective mechanisms in place to stop illegal fishing | 54 (46%) | 36 (31%) | 12 (10%) | 14 (12%) | 1 (1%) | 1 (1%) | 1.9 | 1.1 |
| f. The rights of active fishermen to continue fishing are protected by law or policy | 69 (58%) | 28 (24%) | 7 (6%) | 11 (9%) | 3 (3%) | 0 | 1.7 | 1.1 |
| g. The rights of coastal communities to adjacent resources is protected in Canadian law and policy | 53 (45%) | 34 (29%) | 16 (14%) | 15 (13%) | 0 | 0 | 1.9 | 1.0 |

12. Please rate your level of agreement with the following statements (please mark one box in each row)

| Statement –Agreement | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | NO response | mean | Std |
|---|-------------------|-------------|-------------|-------------|----------------|-------------|------|-----|
| a. The number of people using community infrastructure (eg, marina, harbour, boat ramps) interferes with my needs as a fisherman | 8 (7%) | 58 (49%) | 25 (21%) | 25 (21%) | 2 (2%) | 0 | 2.6 | 1.0 |
| b. The total number of other commercial fishing boats on the water interferes with my ability to harvest fish | 7 (6%) | 93 (79%) | 4 (3%) | 11 (9%) | 2 (2%) | 1 | 2.2 | 0.8 |
| c. The total number of recreational fishing boats on the water interferes with my ability to harvest fish | 2 (2%) | 27 (23%) | 7 (6%) | 53 (45%) | 26 (22%) | 3 | 3.6 | 1.1 |
| d. I am excluded from areas that I need for fishing because of other users or activities on the water (eg, tourism, energy, aquaculture, shipping, development, research, etc.) | 2 (2%) | 27 (23%) | 7 (6%) | 54 (46%) | 28 (24%) | 0 | 3.7 | 1.1 |
| e. I am excluded from areas that I need for fishing due to spatial fisheries management measures | 3 (3%) | 10 (8%) | 7 (6%) | 37 (31%) | 61 (52%) | 0 | 4.2 | 1.1 |
| f. I am excluded from areas that I need for fishing because of marine protected areas | 5 (4%) | 30 (25%) | 11 (9%) | 38 (32%) | 34 (29%) | 0 | 3.6 | 1.3 |