

Well-being of Small-Scale Fishers in British Columbia

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Abstract

Small-scale commercial fisheries are essential to thriving coastal communities, yet the future of such fisheries is uncertain. The purpose of our research was to understand the perceived well-being of independent small-scale fishers who own their own enterprises in British Columbia, Canada. We developed a survey to understand perceptions of well-being of fishers, including quantitative questions and indicators on participants' perceptions of their life satisfaction, satisfaction with fisheries, and market and non-

market measures of well-being. Overall, the 118 fishers who responded to our survey were fairly satisfied with life, and quite satisfied with fishing livelihoods, although more so with non-market benefits than from fishing income. Yet key challenges also emerged, including among fishers who were quite satisfied with their fishing livelihoods: that fisheries are mismanaged, that fishers are not respected and voices not heard, and that there is no future in fishing for subsequent generations. Our results highlight two key aspects of well-being that need significant improvement: inclusion in governance, and opportunities for future generations of fishers. A future for small-scale independent fishers in Canada's Pacific will require policies and programs that maintain and improve the viability and the well-being of fishers.

Introduction

Small-scale commercial fisheries are essential to thriving coastal communities throughout the world, including in Canada's Pacific Ocean in coastal British Columbia (BC). Fisheries are vital for supporting local livelihoods, food security, connections to the sea, identity, and coastal economies. This importance is reflected in Canadian fisheries policy, which has both an ecological and social focus. In particular, Fisheries and Oceans Canada has a dual mandate to protect and conserve fish and fish habitat through the Fisheries Act, while also being charged with promoting fisheries for the prosperity of fishers and coastal communities (Government of Canada 2021). Further, as articulated in the Fisheries Act, there is a hierarchy of priorities in Canada for fisheries management: conservation; food, social, and ceremonial Indigenous fisheries; and recreational and commercial fisheries. These objectives are hard to balance, and fishers and First Nations are commonly dissatisfied with the social and governance aspects of Canadian fisheries policy (Bennett et al. 2021). This chapter explores the perceived well-being of small-scale independent commercial fishers within the context of changing fisheries access.

While fisheries in Pacific Canada saw a rapid buildup in both fishing capacity and catches during the 20th century, since the early 1990s commercial

catches have declined, and concern continues today, especially about drastic declines in salmon (Gough 2006; Castañeda et al. 2020). These declines substantially reduced the number of people who can viably engage in commercial fisheries (Ecotrust Canada & T. Buck Suzuki Foundation 2018). The nexus of species declines, policy changes, and reduced numbers of commercial fishers has affected the vibrancy of coastal communities (Stocks and Vandeborne 2017; Standing Committee on Fisheries and Oceans 2019). For instance, the individual transferable quota system had negative effects on fisheries access and livelihoods due to consolidation and concentration of licences (e.g., Heaps 2003; Olson 2011; Ecotrust Canada & T. Buck Suzuki Foundation 2018; Edwards & Pinkerton 2019).

Despite the many changes to fisheries and loss of fishing livelihoods, the multidimensional well-being of fishers has received relatively little empirical attention. This is the case not only for British Columbia, but also globally (Coulthard et al. 2011; Weeratunge et al. 2014). Well-being is defined as “*a state of being with others and the environment, which arises when human needs are met, when individuals and communities can act meaningfully to pursue their goals, and when individuals and communities enjoy a satisfactory quality of life*” (Breslow et al. 2016). Self-reported perceptions are central to understandings of subjective well-being (Woodhouse et al. 2015; Bennett 2016; Breslow et al. 2016). To date there are several studies that have proposed frameworks and indicators to understand well-being determinants related to the marine environment (e.g., Biedenweg et al. 2016; Van Holt et al. 2016; Kaplan-Hallam & Bennett 2018), but limited multidimensional empirical studies of the well-being of fishers (see Smith & Clay 2010; Trimble & Johnson 2013; Coulthard et al. 2014). Recent global attention on small-scale fisheries has brought into focus considerations of the social well-being of fishers in an industry that largely lacks specific policy tools and legislation to protect those engaged in a livelihood that are often dangerous and precarious (Johnson et al. 2018).

That there is relatively little empirical research on human well-being in fisheries that take into account multiple dimensions of well-being is surprising given the high relevance of this topic for fisheries governance, policy and management. The purpose of our research was to understand

the perceived well-being of independent small-scale fishers who own their operating enterprise in British Columbia. While there is no agreed-upon definition of small-scale fisheries in British Columbia, we focused on independent and active harvesters who tend to use small boats (Bennett et al. 2020a). Such independent fishers tend to have different needs than industrial fishers; the latter generally fish on larger vessels where licences are commonly consolidated and owned by few individuals or companies. Pacific Canada thus differs from Atlantic Canada, as the latter has owner-operator and fleet separation policies that have largely enabled fishers to fish adjacent stocks. In British Columbia, there is no separation of fleets, no owner-operator provisions, and no distinction in management of fisheries (McDonald 2019) - and hence no protections for the independence of harvesters. We ask: How do small-scale fishers in British Columbia feel about how they are doing? What is the relationship between their perceived well-being and their overall life satisfaction, as well as their satisfaction (economic and non-economic) with their job/lifestyle as a fisher? We also asked fishers to consider the future. Life can seem more meaningful when one feels they have agency and an ability to influence the future, and it can raise anxiety if not (Bartels & Rips 2010; Roepke et al. 2018).

Understanding fishers' well-being

We developed a survey to understand perceptions of well-being and access of fishers on the Pacific Coast of Canada. We are a group of social scientists and practitioners who work in organizations that engage with independent and active fishers in BC. We are committed to carrying out research that allows us to better understand concerns facing fishers in British Columbia, so that thriving resilient coastal communities can be created and sustained. We designed the survey iteratively, tested it with fishers, and refined it prior to implementation. Additional details about the process and survey are documented in Bennett et al. (2020a; 2021). The survey included a set of quantitative questions and indicators to capture participants' perceptions of their life satisfaction, satisfaction with fisheries, and various aspects of

well-being (Table 1), which are the focus of this chapter.

Participants responded to a single question on overall life satisfaction, as per the globally-used metric for life satisfaction (OECD 2013), in addition to questions on their level of satisfaction with specific aspects of being a fisher, and perceptions of multiple additional dimensions of well-being (Cummins 2005; Gough & McGregor 2007; Biedenweg et al. 2016; Kaplan-Hallam & Bennett 2018). The specific aspects of well-being in the survey included measures of satisfaction with wealth, health, food security, safety at work, relationships at work, the home and family life, community belonging, community involvement, voice in decision-making, feelings of freedom, continuity of cultural practices, and the ability to maintain fisheries for future generations (Table 1). All questions were based on level of satisfaction for each on a five-point Likert scale (very unsatisfied, somewhat unsatisfied, neutral, somewhat satisfied, very satisfied), except life satisfaction, which was on an eleven-point scale (0-10) from *not at all satisfied* to *completely satisfied* (OECD 2013). The survey ended with a set of open-ended qualitative questions. While none of the open-ended questions were specifically about well-being, they related to challenges fishers face, proposed solutions, and individual and group actions to maintain or increase access, many responses included aspects of well-being (see Bennett et al. (2020a) for the full survey and responses).

We focused on surveying active and independent small-scale fishers (hereafter ‘fishers’), which we define as commercial fishers who are operating their own enterprise (i.e., they own their own boat, and licence and quota, or both). We estimate the active independent fishers to make up approximately 1,200 of the 5,400 commercial fishers along the BC coast. We excluded hired skippers, hired crew, boat owners who are not actively fishing, and licence and quota owners who are not actively fishing. We conducted the survey with 118 fishers in coastal communities in British Columbia, Canada during the spring, summer and fall of 2019. Our results are thus a pre-pandemic snapshot of fisher well-being and also took place prior to extensive commercial salmon fishing closures in 2021 in response to declining stocks. Therefore, further research on the impact of the COVID-19 pandemic and the fisheries closures are recommended. Surveys were conducted in 17 communities that ranged

from large urban centres to small rural villages (see Figure 1). The overall aim was to survey a diverse sample of fishers by selecting survey locations in the Lower Mainland, Vancouver Island, and the North Coast that included communities with a range of population sizes, that represent the geographic regions, in locations near and far from processing facilities, with larger and smaller piers, and that engage in different fisheries (i.e., target different species). The interviewer made contact directly with individual fishers in person at community or government fishing wharfs. In addition, we added a sample of fishers (n=13) from the 14 Nuu-chah-nulth First Nations. These fishers were contacted directly and surveyed by a fisheries technician from Uu-a-thluk, the Nuu-chah-nulth Tribal Council's Fisheries Department. This research was done with ethics approval (University of British Columbia ethics # H17-00580). All surveys were conducted verbally with responses recorded on paper while responses to qualitative questions were handwritten or recorded (n=57) with permission. As the sampling method included a combination of convenience and targeted sampling, this likely had an influence on who participated and the results.

WELL-BEING OF SMALL-SCALE FISHERS IN BRITISH COLUMBIA

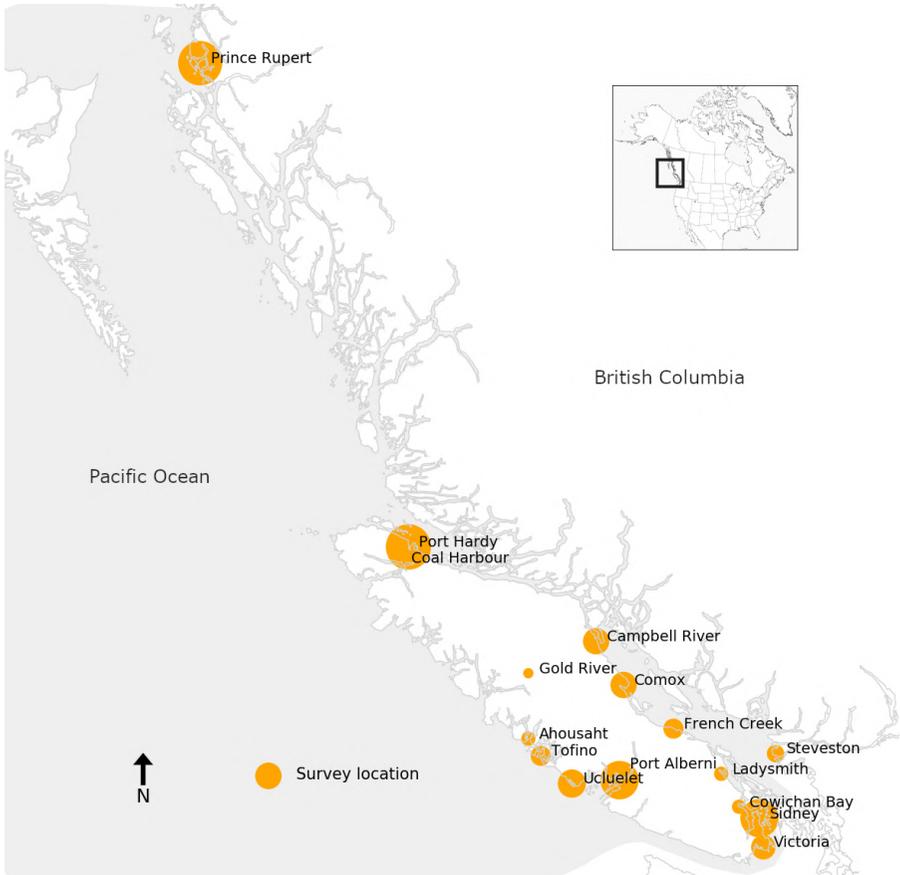


Figure 1. Map of British Columbia coast with locations where surveys were conducted (size of the circle indicates the number of surveys conducted in each location. Map reproduced from Bennett et al. (2021) with permission.

To understand fisher well-being and synthesize the results, we used several approaches. We summarized the quantitative responses using descriptive statistics and Likert plots. We then analyzed qualitative responses by identifying answers to open-ended questions that related to the aspects of well-being that we focused on (Table 1). We include all relevant quotes in the next section, as these provide excellent insight into the sentiments of fishers. To consider the relationship between fishers' perceived well-being

and their overall life satisfaction, as well as their satisfaction (economic and non-economic) with their job/lifestyle as a fisher, we examined the relationship among life satisfaction, fishing satisfaction, and well-being, through Spearman correlations.

Table 1. Survey indicators for satisfaction and human well-being.

Aspect	Survey Indicators
Life satisfaction	<ul style="list-style-type: none"> • Satisfaction with life
Fishing satisfaction	<ul style="list-style-type: none"> • Satisfaction with level of income from being a fisher (fishing income) • Satisfaction with level of non-economic benefits from being a fisher (fishing non-economic) • Overall satisfaction with being a fisher (fishing overall)
Human well-being	<p>Satisfaction with</p> <ul style="list-style-type: none"> • Level of wealth and income (income) • Physical condition and health (health) • Ability to get healthy food (food security) • Safety and security at work (safety at work) • Quality of relationships with others at work (relationships at work) • Quality of home and family life (home family life) • Feeling of being an active member of community (belonging in community) • Extent to which decision-makers consider your point of view and look out for your needs (inclusion in governance) • Extent to which you can choose what to do with your life (freedom agency) • Ability to continue cultural practices and traditions (cultural practices & traditions) • Ability to ensure there will be fishing jobs for future generations (fishing future generations)

How are fishers doing?

Life and fishing satisfaction

Overall, fishers' life satisfaction was mostly positive although not very high, with 70% of respondents scoring it as greater than 6 out of 10, with a

mean response of 6.7/10 (standard deviation, SD=2.7, Figure 2). Generally, fishers were quite satisfied with being a fisher (mean response 4.2/5, SD=1.1). Comments related to life satisfaction were closely entwined with satisfaction of being a fisher, highlighting the importance of fishing as a key component of fishers' identities. Many comments linked to life and fishing satisfaction, and captured three key themes. First, there were fishers who were very satisfied with their life, for example, stating:

"It's a good life that's all," (fisher 28).

"I love the lifestyle of being a fisherman," (fisher 94).

"My experience of being a fisherman has been good. I could see the whole coast, and have been all over the place. It has given me a good outlook on life, rewarding work, and a beautiful place to work," (fisher 90).

"It's a great way of life (being a fisherman); I hope it continues..." (fisher 71).

Second, several responses reflected a feeling of not being valued as a fisher:

"I have fished my entire life. I have never been made to feel worse as a fisherwoman than I do these days. Over-surveillance, DFO [Fisheries and Oceans Canada] looking the other way on fish farms and sports fishermen - it's not equitable, and unfair does not begin to describe how bad fishing is for us right now. We don't know how much longer we can continue like this," (fisher 21).

"I'm very unhappy. I feel as a commercial fisherman I'm treated like a second class citizen. Our voices are not being heard. I'm a 3rd generation fisherman," (fisher 47).

"It's gone from good to bad," (fisher 29).

Finally, fishers expressed a concern about future generations:

"It's a really wonderful life in terms of being a fisherman and I feel very fortunate to be a fisherman all my life. I just really wish that there's another generation that had some of those chances and not just us," (fisher 43).

"No better life than being a fisherman, but the government is squeezing us out." (fisher 33).

Critically, the basis for satisfaction in most cases was non-economic. That is,

when asked to compare the satisfaction of economic versus non-economic benefits of fishing, a relatively more positive response was provided for non-economic aspects of fishing (mean Likert response = 3.9, SD 1.3) than with fishing income (mean=2.9, SD=1.3; Figure 3). Comments also revealed the importance of such non-economic benefits, for instance, stating that:

“To be a fisherman is not just dollars and cents - it’s a way of life. I share 75% of my catch with the community,” (fisher 13).

Responses related to income reflected contradictory opinions, with some expressing continued satisfaction with generating a livelihood, and others indicating that it can be hard to afford to be a fisher:

“The quota system is all to do with rich people and who can afford it,” (fisher 109).

“Still a good living; it’s a good job. With prawns you can still make a living,” (fisher 44).

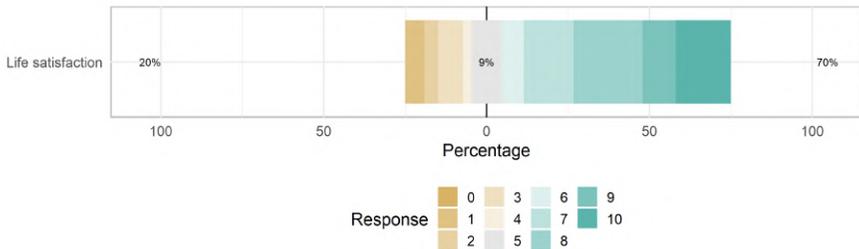


Figure 2. Perceived life satisfaction on an 11-point scale in response to the question “Overall, how satisfied are you with your life these days? (OECD 2013). A response of 0 means extremely unsatisfied, and 10 indicates extremely satisfied with life.

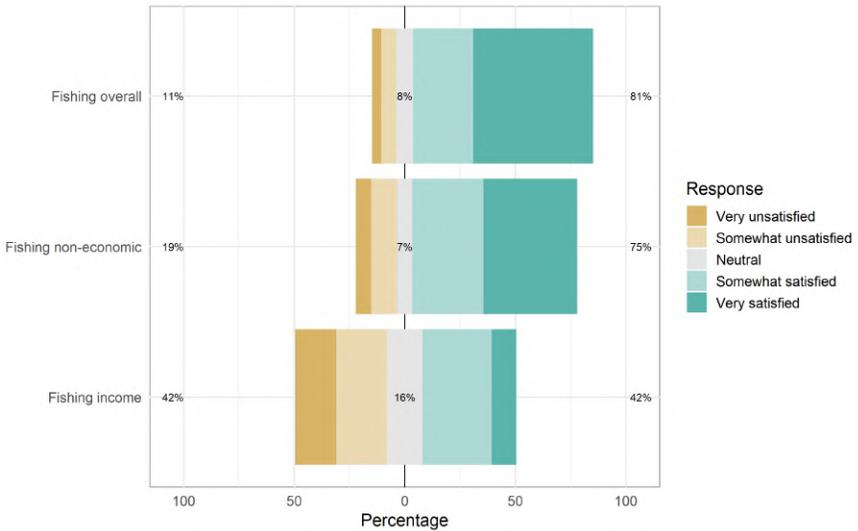


Figure 3. Satisfaction with fishing, illustrating the level of satisfaction with overall, non-economic, and economic (income) aspects.

Fisher well-being

Perceptions of well-being ranged widely for various aspects of well-being. Most respondents were somewhat or very satisfied with food security (4.56/5 (0.72 standard deviation - SD)), home and family life (4.38 (0.74)), relationships (4.40 (0.81)) and safety at work (4.24 (0.94)), health (4.06 (0.85)), and having a feeling of freedom (4.18 (0.93)) (Figure 4). Each of these had fewer than 10 percent of respondents indicating that they were very or somewhat unsatisfied. There were relatively few comments from open-ended questions that related to these aspects, perhaps indicating that overall there is not much concern about these aspects of well-being. Few concerns were expressed about health:

“I know [I] have 20 years [left] but I don’t know if they’re gonna be good years. I’m pretty healthy. I’m very healthy. I’m not worried about my health,” (fisher 14).

Despite the relatively high satisfaction with safety at work, some expressed concerns as exemplified in this quote:

“It can be a bit scary at times too. I’ve been in some pretty bad weather fishing too, that’s not enjoyable. [...] didn’t know better at the time, whole crew was sitting in the galley when I woke up for my shift. And I asked why, and they said they wanted to be awake when they drowned,” (fisher 91).

Several well-being aspects had between 10-30 percent of respondents indicating that they were very or somewhat unsatisfied: belonging in their community (3.93/5 (1.03 SD), income (3.22 (1.18)), cultural practices and traditions (3.54 (1.12)), and being an active member of their community (3.64 (0.99)). Quotes from fishers interviewed on these topics reflected their concern about these aspects of well-being:

Relating to income: *“I invest a lot of money to go out with little return,”* (fisher 22).

“The way things are going, we will lose income this year. This is not a good livelihood for us,” (fisher 62).

Relating to being an active member of the community (belonging in community): *“Because fishermen have a lot of tradition behind it, it was for years a respected industry and that needs to be brought back up to that level again, so people won’t be ashamed to talk about being a commercial fishermen,”* (fisher 86).

“I think small communities and this coast can be sustained through our commercial fisheries, but it takes some political will and it will take a while. [...] I think there is enough of a community around it and that’s why I’m here,” (fisher 79).

Relating to the ability to continue cultural practices and traditions (cultural practices & traditions): *“I know many fishermen who get out because they couldn’t afford to fish anymore. licence/quota are too expensive. No new fishermen these days [...]. We’re the last generation it seems,”* (fisher 19).

The two aspects of well-being with relatively more negative perceptions were the extent to which decision-makers consider fishers’ points of view and look

out for their needs (inclusion in governance, 2.20/5 (1.41 SD)); and the ability to ensure there will be fishing jobs for future generations (fishing future generations, 1.73 (1.08)). There was a strong sense of feeling excluded from governance, and feeling powerless to influence management, as exemplified in the quotes below:

“I feel betrayed by our federal government. I don’t think what they’ve done is right or fair. It’s a mess,” (fisher 8).

“They make us into criminals when we just want to earn a living doing what we love. DFO is bullshit. It’s over for us,” (fisher 18).

“The politics are the only real problem, other than that I’m pretty satisfied with fishing,” (fisher 46).

“DFO is cutting us out of the business, why don’t you listen to us? DFO goes and does what they want. Mismanagement,” (fisher 26).

A sense of hopelessness related to the future was often expressed by participants, with evident sadness that there may not be jobs in fishing for future generations:

“Young guys wanting to get into fishing is impossible and it makes me sad,” (fisher 16).

“I will not let my son go into fishing here. It’s a dead end,” (fisher 22).

“The end is near in the fisheries,” (fisher 77).

THINKING BIG ABOUT SMALL-SCALE FISHERIES IN CANADA

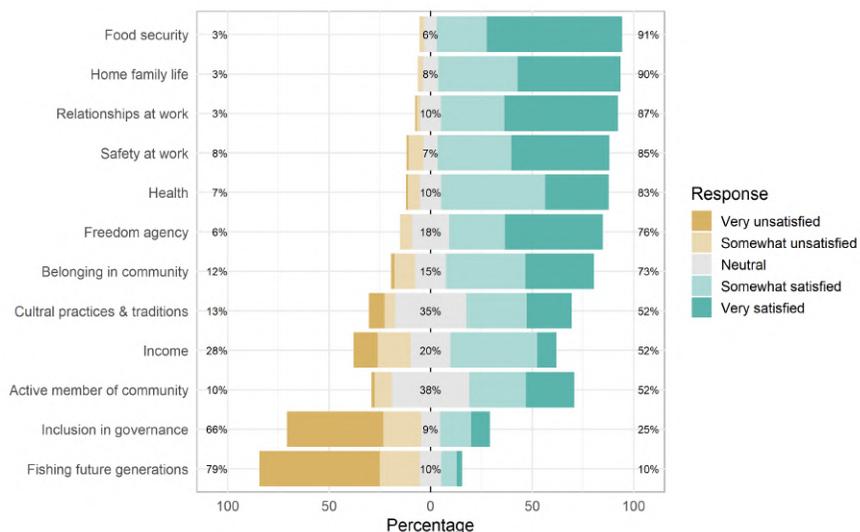


Figure 4. Fisher perceptions of different aspects of well-being.

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Figure 5. Spearman correlation among life satisfaction, satisfaction with fishing, and aspects of well-being. A correlation (corr) of 1 indicates a perfect positive correlation, and -1 a perfect negative correlation. Panel (a) shows all correlation, panel (b) only those that are significant.

Almost all of the indicators of satisfaction and well-being we asked about were positively correlated with one another (Figure 5a), although not many significantly so (Figure 5b). Those indicators most closely related to one another – in other words, those that were significant and had a correlation of >0.5 were: economic well-being and satisfaction with fishing income; life satisfaction and feelings of freedom (freedom agency); relationships at work and safety at work; belonging in community and home family life; and active member of community and belonging in community.

Implications of the findings

Despite the increasing global attention paid to small-scale fisheries, the multidimensional well-being of small-scale fishers has received relatively little empirical attention (Coulthard et al. 2011; Weeratunge et al. 2014). We addressed this gap through our study on well-being of small-scale fishers in British Columbia, Canada. This chapter provides a pre-pandemic and pre-salmon fisheries restructuring snapshot of how independent commercial fishers are doing in Pacific Canada. Overall, fishers were fairly satisfied with life, and quite satisfied with fishing livelihoods, although more so with non-market benefits than with fishing income. This result further challenges the notion of fishing as an occupation of last resort (Béné 2003; Trimble & Johnson 2013). The qualitative interview quotes reflected similar sentiments to the quantitative scores for different aspects of well-being. Most prevalent was the general sense of satisfaction with fishing as a way of life. Yet at the same time key challenges came to the fore, often in the same comment as being satisfied with fishing: that fisheries are mismanaged, that fishers are not respected and voices not heard, and that there is no future in fishing for future generations. Thus there is an urgent need to improve governance of fisheries to create thriving coastal communities.

Having a pre-pandemic snapshot provides opportunities to assess how fishers' well-being is changing as various global, regional, and local drivers affect them (Cheung 2018; Bennett et al. 2020b). For example, the survey

could be repeated in the near future to understand how the pandemic and ongoing policy changes (such as restructuring of salmon fisheries) are affecting fishers, or in the future as regional changes occur such as implementation of a network of marine protected areas in the Northern Shelf Bioregion (Mahajan & Daw 2016; Ban et al. 2019). Relatedly, our results highlight that some metrics of well-being, and well-being and satisfaction, are strongly correlated. Future analyses will need to account for these correlations and future surveys might be able to reduce the number of metrics. For instance, in this context including satisfaction with fishing income along with economic well-being contributes limited unique information, quantitatively, due to their high correlation. While quantitative tools can guide efforts to select aspects of well-being to include on surveys, theoretical consistency and relevance to participants can provide additional guidance (Loveridge et al. 2020).

Several limitations of this survey should be considered when interpreting our results and any future comparisons. First, this was a survey of active independent fishers, which means that neither fishers unable to continue their fishing livelihoods nor fishing labourers were captured in the sample. Thus, our focus on active and independent fishers might also have led to a sample that selected for older fishers, as younger fishers are more likely to be dependent or labourers. Second, this was a convenience sample (i.e., surveys were completed at the docks with fishers willing to speak with the researcher), which means that it is difficult to gauge how representative the sample might be. Third, we visited each dock and town for only a day or a few days, such that it might not represent all the fishers who use that geographical location. Finally, the sample size was fairly small.

One premise of doing research on human well-being in fisheries is that insights can contribute to improving policy and management practice (Coulthard et al. 2011; Weeratunge et al. 2014). Indeed, our results highlight two key aspects of well-being that need significant improvement: inclusion in governance (e.g., co-management, participatory processes & engagement), and opportunities for future generations of fishers (i.e., overcoming access issues particular to new entrants and young fishers) (see also Bennett et al.

2021). There are also several aspects of well-being that were problematic for some fishers and may require attention: income, cultural aspects of fishing, and community belonging. Focusing fisheries management only on sustainability of targeted species is not enough to ensure thriving fisheries, fishers, and coastal communities. For instance, the change to ITQs in some fisheries led to improvements in stock sustainability, but had negative social outcomes (Pinkerton and Davis 2015). Including social objectives in fisheries management and planning, with clearly articulated goals, programs, and metrics that relate directly to maintaining and improving well-being, is one option for managing fisheries more holistically in Canada (Breslow et al. 2016; Stephenson et al. 2018; Stephenson et al. 2019).

Recommendations for improving Canada's West Coast Fisheries already exist, and our results highlight that implementing such recommendations is urgent to create a viable future for commercial fishers. More specifically, the House of Commons Standing Committee on Fisheries and Oceans published a report in 2019 that provides 20 recommendations for improving Canada's West Coast fisheries, which seek to achieve three of five primary objectives for fisheries management: Promoting the stability and economic viability of fishing operations; Encouraging the equitable distribution of benefits; and Facilitating the necessary data collection for administration, enforcement and planning purposes (Standing Committee on Fisheries and Oceans 2019). One of the completed recommendations (R6), an Atlantic-Pacific Comparative Analysis, found that Fisheries and Oceans Canada (DFO) was at odds with these objectives by using tradable quotas that facilitated draining revenue from active fishers to quota investors (Gardner 2021). Another recommendation (R2) seeks to stop the sale of licences and quotas to non-Canadian beneficial ownership. The Pacific Region has no Canadian content requirements, unlike the Atlantic Region, which has clear Canadian ownership requirements (100% in the inshore, and 51% for all other), and has no idea where beneficial ownership truly resides. They are undertaking a survey to understand the extent of the problem. Meanwhile licences and quotas continue to be purchased by and consolidated in the hands of corporate and foreign interests (Pinkerton & Davis 2015; Silver & Stoll 2019). This may

help explain the pessimistic outlook by commercial fishers about the future of fisheries in BC highlighted in our survey and interview results.

For there to be a future for small-scale independent fishers in Canada's Pacific will require action by DFO and the Government of Canada to create policies and programs that maintain and improve the viability of fisheries and the well-being of small-scale fishers. Our results show that most independent harvesters experienced a good life but see few future opportunities to fuel the small-scale fishing legacy for the next generation. Unless this is corrected, we expect that the well-being of independent small-scale fishers will decline and coastal communities will lose an integral component for sustainability. Small-scale fisheries and coastal communities are an integral part of viable livelihoods in Canada and globally, and are essential to maintaining the vitality and sustainability of our coastal cultures, regions, and environments.

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