

“Community connections to chagiġ (Pacific halibut, *Hippoglossus stenolepis*) and other marine resources on St. Paul Island, Alaska”

Chris C. Tran¹, Lauren M. Divine^{1,*}

¹Ecosystem Conservation Office, Aleut Community of St. Paul Island, St. Paul, AK, USA 99660

*Corresponding Author; lmdivine@aleut.com

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“So the sinker would be on here, then they’d be jigging like so with the bait on the hook...One of the lines will catch a halibut first and still another halibut will go on the other hook, so this person would bring in two halibuts at one time. This must be the start of commercial fishing!”

—Vlass Shabolin, 2003 (Accessed from: <https://alaska.si.edu/record.asp?id=417>)



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“Homemade halibut hooks at Unalaska, all the way down the Aleutian chain, they were all similar, because the men were actually from the Aleutian chain. They went to the Pribilofs for the fur seal with the Russians. Then a year later when they went back, they found a way of building some homes, and then they brought some of their families back to the Pribilofs. When they [Russians] looked over from St. George from the highest cliff, they saw another island, so they got to St. Paul Island. When they went there, they found that people were already there, because they found a bonfire there that was warm yet, a broken piece of pipe and some other items. So, the Aleuts with the *baidarkas* [kayaks] were there before the Russians discovered St. Paul.”

—Vlass Shabolin, 2003 (Accessed from: <https://alaska.si.edu/record.asp?id=417>)

Introduction

Quantitative social data have advantages of summarizing and communicating social data across a broad range of communities, they are familiar to researchers, and predictive and widely generalizable (e.g. such as rankings of communities, quantitative social indicators, and mapping spatial patterns; Huntington 2000, Pollnac et al. 2006, Himes Cornell and Huntington et al. 2013, Kasperski 2014, Breslow et al. 2017). However, conclusions based on quantitative social data remove historical context, obscure power dynamics, downplay global-to-local connections, and prioritize economic measures which do not accurately reflect the priorities of Indigenous communities (Huntington et al. 2013, Poe et al. 2014, Lyons et al. 2016a). Thus, integrating qualitative social science in fisheries management is essential to understand the complex social impacts to fishing communities. Here we present the fishing community of St. Paul Island as a case study to highlight the advantages of qualitative social data (i.e., community voices and perspectives) to inform fisheries management regarding social impacts of the Bering Sea Aleutian Islands (BSAI) Pacific halibut resource.

The Pribilof Islands are centrally situated in the Eastern Bering Sea, 30 miles north northeast from the Bering Sea shelf break, approximately 200 mi (320 km) north of Unalaska, 500 mi (800 km) off the Russian Siberian Coast, and about 750 mi (1,210 km) west of Anchorage. The principal Islands of St. Paul and St. George are the largest islands of the Pribilof Islands group and are the only permanently inhabited island communities. Understanding the unique history of settlement in the Pribilof Islands is critical to understanding the current relationship and dependence of our communities on halibut as a commercial and subsistence resource. There are numerous, detailed sources of information for this contentious and unique history that are not presented here and warrant further investigation to truly understand the current socioecological landscape of the communities. Here, we present a brief background.

The bounty of diversity and richness found in the area has sustained Alaska Natives throughout the Bering Sea region for millennia. Pribilovian Unangaꝰ are immediate descendants of Indigenous Peoples from the Aleutian Chain, who settled the region from Siberia via the Bering Land Bridge. Prehistoric culture across the Aleutian Chain was based almost entirely on marine resources, including hunting every kind of sea mammal found around the island chain, fishing the offshore and coastal waters, foraging for fish and shellfish on the rocky reefs, and hunting birds on land and sea. The wealth of resources supported dense Unangaꝰ populations expressing a rich, strong culture. Virtually every archaeologist and ethnographer of the Unangaꝰ (or Aleuts) have described what was hunted and how people used sea mammals, birds, fish, and shellfish (Corbett 2016). Unangaꝰ thrived along the Aleutians spanning from Alaska to Kamchatka Peninsulas and have a long oral history and an archaeological record of subsistence use in the marine environment (Veltre and Veltre 1981). These prehistoric inhabitants created one of the world's most specialized and successful maritime hunter-gatherer traditions, lasting from roughly 4000 BP to the time of Russian contact in 1741 (Dall 1877, 1878; Hrdlička 1945; Jochelson 1925; Lantis 1970, 1984; Laughlin 1980; McCartney 1984; Veniaminov 1984).

These communities have been profoundly impacted by several fisheries policies over the past century and a half under Russian and U.S. governance (Torrey 1978). The Fur Seal Act Amendments of 1983 ceased the harvest of the U.S. Fur Seal Harvest and the U.S. federal government posited to assist St. Paul and St. George, *"to further progress toward creation of a stable, diversified, and enduring economy not dependent on commercial fur sealing (H.R.2840)."* The cessation of the fur seal harvest was a devastating loss for the communities due to their complete dependency and subjugation by Russia and later the U.S. and it necessitated an urgent need to establish alternative economic activities for the communities to survive (Torrey 1978, Mercurieff and Simons 2016).

In light of the abrupt cessation of the fur seal harvest, which was the only economy of the Pribilof Islands, Pribilovian Unangaꝰ successfully developed commercial halibut fisheries on both islands in the 1980s. Fishing activities today remain one of the foundational mainstays of our islands' local economies. Born from the long and enduring history of subsistence fishing, gathering intertidal invertebrates, and hunting marine mammals at sea, the commercial fisheries were a natural progression of traditional Unangaꝰ culture. Deep and enduring connections to fishing as a customary and traditional way of life are evidenced in community perspectives that draw upon the extensive knowledge born from a history at sea. This Indigenous knowledge is important to those that participate in the commercial fishery today, and the act of commercial fishing is viewed as a continuation of the longstanding tradition of fishing before the western terms and management structures of "subsistence" and "commercial" were applied.

“I’m a second-generation commercial fisherman. Our family has been depending on subsistence halibut for countless generations.”¹

“I am a first-generation commercial halibut fisherman, but come from generations that have depended on halibut for subsistence and culture for hundreds or thousands of years.”

Additionally, conservation of Pribilof Islands marine resources, including Pacific halibut, extends to the management organization for the Western Alaska Community Development Quota (CDQ) Program that was created in the early 1990s. In the Pribilof Islands, the CDQ program is executed through Central Bering Sea Fishermen’s Association (CBSFA) on St. Paul and Aleutian Pribilof Islands Community Development Association (APICDA) on St. George. Due to a lack of resources early in the program, CBSFA and APICDA initially leased their quota to private fishing corporations, so that royalties and profits might be invested back into fisheries development projects (NRC 1999; Mansfield 2007). CBSFA and APICDA are a cornerstone of our modern communities. There is a high number of tribal members directly and indirectly involved with, and benefiting from, the services provided by CBSFA and APICDA. They invest in our youth, workforce development, infrastructure, and overall community sustainability.

Today, after decades of effort and public and private investments in infrastructure approximating \$150 million, St. Paul has an established processing facility, a functioning harbor, and a fleet of locally owned fishing vessels. While processors have not regularly come to St. George in over 15 years, the community is pursuing to build a new harbor and further develop a sustainable fisheries base economy (Lyons et al. 2016, H.R.7575). In 2019, CBSFA had 15 vessels that were privately owned participate in the fishery and employed 75 people (Philemonoff 2020). St. Paul and St. George have virtually complete community fleet dependency on Bering Sea Aleutian Islands halibut ex-vessel gross revenues (Downs et al. 2020). Even though the Pribilof Island communities’ commercial fisheries are their main source of income, subsistence use of marine resources for Pribilovian Unanga is a fundamental aspect of culture and livelihood encompassing more than 10,000 years (Torrey 1978).

¹ All quotes presented in this white paper and not attributed to an individual were obtained from one of the following sources: interviews, personal communication or surveys conducted by the Ecosystem Conservation Office with Indigenous fishermen and residents on St. Paul Island in 2021; public oral testimony that is part of the public record to the NPFMC from 2015 to present; written comments submitted to the NPFMC and part of the public record from 2015 to present; publicly available media articles or peer-reviewed published articles. We did not attribute ownership of quotes to protect confidentiality of our respondents.

St. Paul Island Case Study

Through the Aleut Community of St. Paul Island Ecosystem Conservation Office, we surveyed St. Paul community members and fishing families through email and phone calls on the role of commercial and subsistence fishing, specifically related to Pacific halibut as a resource, in their lives and livelihoods. We also compiled related archival recordings, writings, and other information, published and unpublished, from Pribilof Islands community members.

“The halibut fishery is not just the economic heart of the island, it is a customary fishery of the community during the brief and beautiful Pribilof summers, with deep roots and meaning.”

“Our people have subsistence-fished for halibut long before the Russian expedition sailed to Alaska in 1741, and also long before the United States purchased Alaska from Russia. This heritage explains why the halibut fishery has irreplaceable social and cultural value. It is not just what we do, but who we are.”

Fishing Economy

Since the inception of a commercial longline halibut fishery-based economy in the 1980s, St. Paul’s fishermen have been constantly faced with economic uncertainty due to the “moving target” of fisheries stocks, climate change affecting spatial distributions, competition with large scale commercial fishing enterprises, and the management regulations that directly affect their livelihoods. The local halibut fishery is a major source of employment and income for our community members, but there has been a declining trend of employment and halibut landings over a 20-year period (Fig. 1).

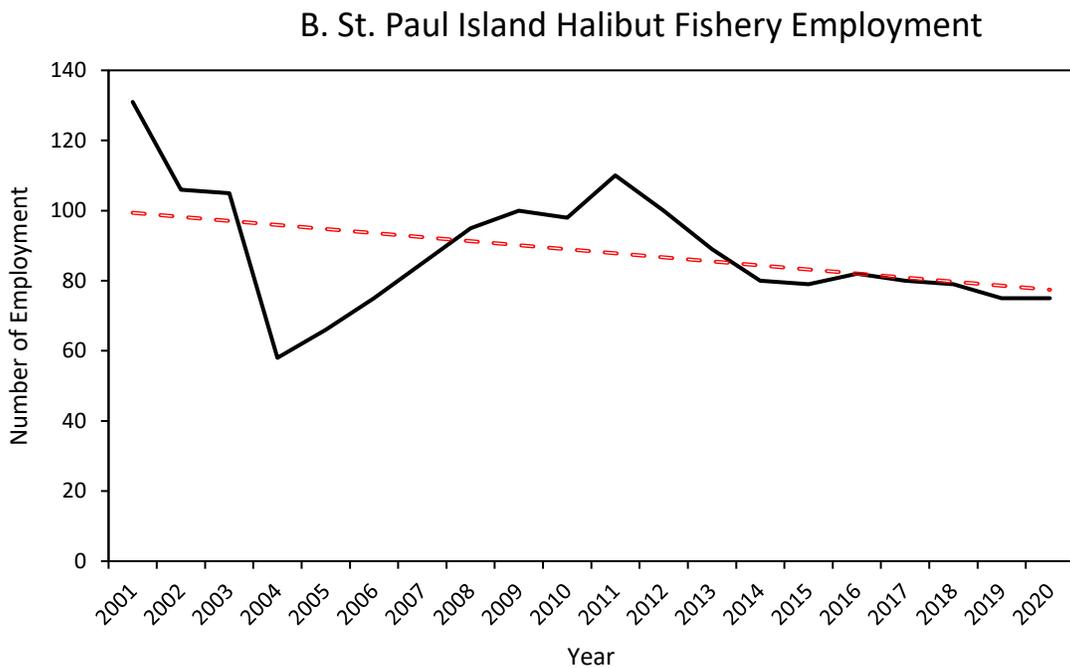
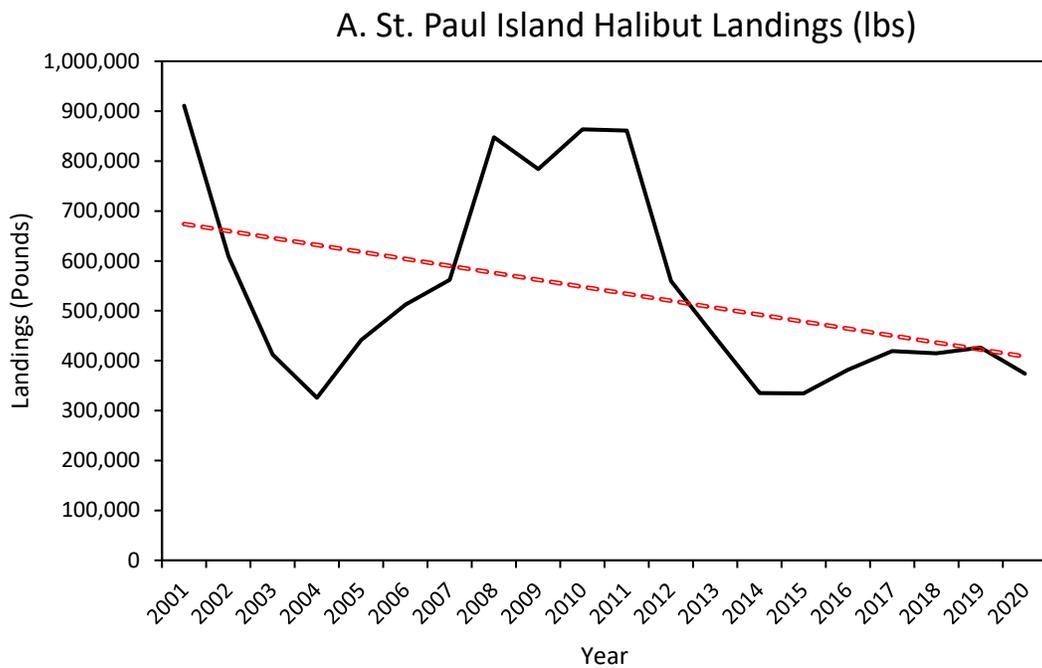


Figure 1. St. Paul Island’s local halibut employment (A) and landings in lbs. (B) from 2001 to 2020. Local employment and landings show a declining trend that is reflective of the multiple challenges the local halibut fishery faces. Fishermen spoke about the “moving target” of fisheries stocks, climate change affecting spatial distributions, competition with large scale commercial fishing enterprises, and the

management regulations that directly affect their livelihoods as unsurmountable uncertainty that may preclude their participation in the local fishery in the future unless appropriate measures are taken to safeguard the halibut resource.

Between 2001 to 2006 an average of 90 people were employed with 535,338 lbs of halibut caught compared with an average of 79 people employed and 395,338 lbs of halibut caught between 2016 to 2020 (CBSFA 2021). Until the 1990s, local fishermen experienced consistent harvest shortfalls coupled with steadily decreasing CPUE and smaller sized halibut within 10 miles of the islands (Clark and Hare 2002, Lestenkof et al. 2013, Lyons et al. 2016). Lestenkof et al. (2013) surveyed eight St. Paul participants about halibut changes through time, with seven of the people noticing fewer and smaller halibut, halibut further from island, deeper in the ocean, and harder to find and catch than in the past.

“... If we do have good weather, then we go as much as we can, but the weather changes so fast nowadays. And then when we used to fish maybe a mile from the island, last year we had to go about twenty-five, thirty-five miles off the island to catch some halibut. Like some people say, the weather is getting too warm, and the halibut are staying in the deeper end where the water is cool...”

CDQ and SHARC Programs

NPFMC measures acknowledged the historical use of halibut by Alaska Natives and Alaskan coastal community residents but have not meaningfully integrated their participation and perspectives in management. A unique halibut regulatory area in the Pribilofs was created in 1986 and was sustainable for the first decade despite an initial drop of CPUE (Sadorus and St.Pierre 1995). Management measures have attempted to maintain a balance among competing economic goals but, conservation measures have been insufficient in recovering a declining halibut resource for decades. In 1992, the implementation of the Western CDQ program changed how quota shares were allocated and systemically changed Alaskan commercial fisheries. Recalling this time, one interviewee stated that the Western CDQ created a “political game” amongst tribes due to region-based allocations. The creation of the CDQ program required fishermen across western Alaska to adapt to a new management and allocation system and has resulted in variable levels of participation and opportunity within the six CDQ groups today.

Additionally, the Subsistence Halibut Registration Certificate (SHARC) program was adopted by the NPFMC to recognize the Alaska subsistence halibut fishery in 2000 (NOAA 2019). The adoption of the SHARC program was an effort to allow, “inadvertently-excluded rural residents to participate in the subsistence halibut fishery and to support the conservation and management provisions of the Northern

Pacific Halibut Act of 1982.” The SHARC program requires fishermen Alaska-wide to register and subsistence fish under federal regulations. However, the sentiment of some fishermen who participated in the NPMFC meetings during the development of this program stated that Alaskan Native fishermen did not want the government to control their subsistence rights. Western management has systemically regulated how Alaskan Natives and coastal community residents’ fish that requires adaptation from their traditional way and have serious ramifications to their livelihoods.

“From a community’s perspective, If the halibut fishery is closed, unemployment would shoot up, various social illnesses would increase, and most importantly St. Paul would lose its most entrepreneurial residents. The older fishermen...may have the option to retire, younger folk will migrate and seek opportunities elsewhere. It would be the slow extinction of halibut dependent communities throughout the Bering sea and a sad continuation of the United States historic interaction with Native Peoples”

“We were encouraged by the federal government to become commercial fishermen, as this was one of the few resources that could readily support our families. We worked hard, invested in harbors, docks, and boats, and succeeded at developing commercial halibut fishing as a way to save our community. Now, our communities and economy are at risk due to the rapacious behavior of the trawlers and factory ships.”

Cultural Connections

While laaquadan, or northern fur seals (*Callorhinus ursinus*), are undoubtedly the most well-known and iconic cultural keystone species of the Pribilof Islands, the community of St. Paul also values halibut as critically significant from a cultural standpoint.

“Halibut is like seal, it’s a cultural foundation, it’s a part of us, not having it would be devastating. It’s special, it means so much to the community.”

“I have grave concerns about the management system not looking out for ... the communities in proximity to the resource [halibut]. To me halibut is an iconic species in St. Paul, right up there with the fur seal.”

Subsistence activities are intertwined with sustaining a resilient community and maintaining strong social bonds. Halibut fishing is an opportunity for community members to share and exchange knowledge, connect and experience culture and traditional ways of living in the marine environment, and subconsciously and consciously connect with family and ancestors.

“I am showing the young folks on my boat a way of life I absolutely love that brings a completeness to my soul.”

“[Subsistence]... it’s our time to get away... I see it as a constructive use of time... You have a friendship...a lot of joking around and talking...”

“I will eat halibut and crab forever. I am a fisherman inside and out, and it is a big part of who I am. Not fishing would cause loss of self-identification, sense of self-worth, wealth, and my pride and dignity that stems from earning my living from the bottom of the ocean.”

Community members relate as fishermen to their core identity. Fishing provides personal fulfillment and cultural connections that link the past to the present. St. Paul fishermen root their livelihood in being involved in fishing for the rest of their lives and have no intention of stopping. Long term perspectives include subsistence halibut fishing as certain activity, even though commercial fishermen acknowledge that commercial fisheries management has not adequately nor equitably considered their sustained participation in decision-making processes that impact them. Halibut fishing spans countless generations of Unangan families and continuing that connection profound meaning to the lives of present-day fishermen. There is hope that the same opportunities will continue to be available to future generations, despite concerns about being excluded from fishing opportunities by ongoing management decisions currently being considered at the NPFMC. Each year, over 100 people in the communities of St. Paul and St. George participate in the halibut fishery. Fishermen speak about fishing as a family effort and acknowledge their family members participate in all aspects of the fishery, from being captain and crew, to providing on-island support such as preparing meals, supplies, baiting, tracking financials, and tracking paperwork.

“This way of life, this connection through utilization of these resources, has created a strong tie to the island. It is largely why I am here and why I choose to raise a family here. I will provide my own kids with the same opportunities to participate in what I did growing up in hopes that they develop the same strong ties. So that they might desire to live their lives here and continue these traditions...I view these subsistence activities as what’s largely remaining of our Unangan culture.”

Halibut, crab, and other marine resources are traditional Unangan foods and were solely consumed until the colonization by Western society. Today halibut and other marine foods are integral to the local cuisine and a dietary staple for the Pribilof Island communities. However, consumption and the physical benefits

of consumption do not address the importance of the resource to community members. Typically, western scientific methodologies relate the importance of specific foods to Indigenous communities as the number of meals or pounds of a resource that are consumed at the individual or household level. These perspectives reaffirm the disconnect of Western science and management from the Unangan worldview and culture. It is a telling sign of inequality when social impacts must be evaluated from fishermen of coastal communities, while fishermen of the global commercial industry are not judged by the same standards. For example, one interviewee noted that to ask about the pounds of halibut or number of meals consumed and shared is deeply personal and does not provide any information that can be used to evaluate the level of dependence on halibut to, e.g., industrial vessel crew or processing employees. Basing community dependence on a resource by using simplified indicators such as pounds of halibut consumed does not align to the indicators used to value the resource to non-Indigenous, non-community stakeholder groups.

However, despite the reluctance to assign a number that could be used to devalue the importance of halibut to individuals and our communities more broadly, some interviewees did provide estimates that ranged from 100 to 160 meals a year, or more, consisting of halibut or other marine resources. Although there is not much publicly available literature regarding food security in the Pribilof Islands, a survey on traditional foods completed in 2006 found that 79 of 80 St. Paul Island interviewees consumed halibut year-round or seasonally (Unger et al. 2006). The report also contains details of the many benefits to consuming halibut. Traditional foods, including halibut, are integral part of social gatherings and potlucks and cannot be replaced in importance by store bought and non-traditional foods. Recipes and dishes are a tangible outpouring of traditional knowledge and preparing and sharing dishes such as halibut spread, marinated and grilled halibut, and fish pie, represent the passing of knowledge from generation to generation.

“Womenfolk would gather together when we bring in the fresh halibut and cut it up, and then they eat some of that raw halibut. Chuumlaġii [eating raw halibut], we call it.”

“I think all those connect the dances, the food, and church...they all intertwine they all are important to us on the islands.”

“Traditional foods...are vital to our continuance as a People.”

Regardless, consumption of halibut and other subsistence foods is a critical part of the day-to-day budgets of local families. As a remote community, with expensive and complex transportation issues that heavily impact the food system on island, the cost of basic groceries on St. Paul is significantly higher than on the

mainland Alaska. The availability of locally caught and harvested resources, like halibut, is therefore key to making life on St. Paul Island and raising a family affordable and possible.

Community Connections

Halibut is shared widely by local fishermen and heavily depended on by the community, especially those community members who are not able to subsistence fish for themselves. Subsistence harvesters feel a deep sense of duty of continuing a long-lasting tradition of giving back to the community by providing subsistence foods. When asked fishermen estimated they've delivered fresh halibut to a range of 16 to 30 families a year.

"All the fishermen, we were just like one big happy family where everybody helped each other. If an elderly person couldn't go fishing, then somebody used to bring an extra halibut and give it to them. We still do it to this day. When our first halibut season comes in, the halibut that they catch on the first day are given to senior citizens that need it, and then we divide it among the families after that. So, halibut is very important in the Pribilofs."

The 2020 halibut fishery season provided an example of this resilient tradition. While local fishermen unanimously agreed to close the commercial harvest due to the COVID-19 pandemic, fishermen engaged heavily in subsistence fishing and shared halibut as widely as possible with other community members. One interviewee speculated that due to the pandemic closures, more people got out subsistence fishing in 2020.

"There was plenty subsistence halibut caught by several local vessels that was distributed to many people in the community."

Conclusion

Fishing is a cornerstone of the St. Paul Island community and the individual livelihoods that have been challenged since contact with Western society. Commercial fisheries have been a constantly changing management system that local and Indigenous fishermen have been forced to constantly adapt to. This case study of the community of St. Paul Island frames the consequences of fisheries management decisions to the intricate web of societal, cultural, and economical structures that are characteristic of Indigenous coastal communities. Qualitative social impact assessments have the potential to advance understanding, and subsequently management decisions, to progressively serve all Indigenous coastal communities if they are completed in a way that is respectful of and actively and equitably involves Indigenous Peoples that are disproportionately experiencing the negative impacts of management decisions. Fishery management frameworks, though, must meaningfully incorporate community

perspectives, a task that is currently under development through several working bodies within the NPFMC.

Generally, when asked about commercial and subsistence halibut fishing in the Pribilof Islands, St. Paul community members voiced themes of building social bonds, self-identity fulfillment, connections to local place, and economic challenges related to fisheries. Community members reiterated that their ancestors have lived with these marine resources since time immemorial and that it was a “culture shock” when the term “subsistence” was used to define the activity when external governing bodies gained control of it.

Qualitative social data can contribute the nuanced local and personal contexts that can be supplemented with economic analyses and Western science-based research, and certainly using economic indicators derived from a western methodology exclusively is insufficient. Participant accounts are a complex information source that cannot be interpreted the same way quantitative data are interpreted. Rather, it requires holistically incorporating the complex socioecological interactions of Indigenous livelihoods and context to further fisheries management in an equitable manner that ensures sustained participation of all user groups. Achieving a management process that includes these qualities will create a practice of co-existence from local to global communities that rely on these resources and will in turn produce a more adaptive, productive and sustainable future.

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