

Holding It All Together

Listening to the Women Who Keep Fisheries Afloat – and the Need for Support in Small-Scale Fisheries

Prepared by Nikole Beck

A capstone project in partial fulfillment of the requirements for the degree of Master of Arts in
Marine Science at the Virginia Institute of Marine Science, William & Mary

May 2, 2025

Advisory Team:

Co-Advisor: Dave Rudders

Co-Advisor: Adriane Michaelis

Professional Mentor: Bryan Fluech

Capstone products:

White Paper Report

Table of Contents

Executive Summary.....	3
Introduction.....	4
Methodology.....	6
Key Findings.....	7
Contributions.....	7
Direct.....	8
Indirect.....	9
Resilience and Challenges.....	10
Coping Strategies.....	10
Economic Pressures.....	11
Emotional Strains.....	11
Regulatory Burdens.....	12
Policy Gaps.....	12
Lack of Recognition.....	12
Barriers to Participation.....	12
Need for Support.....	13
Recommendations.....	13
Create a Dedicated Small-Scale Fisheries Advisory Board.....	14
Implement an Equitable Participation Framework.....	16
Build Practical Business Skills Through Targeted Outreach and Training..	17
Design Outreach Events that Support Wellness and Inclusion	19
Conclusion.....	20
Next Steps & Future Research.....	21
Economic Evaluation of Indirect and Unpaid Contributions.....	21
Improved Representation in Governance Structures.....	22
Social and Wellbeing Impact Assessments.....	22
References.....	24
Appendix A: Interview Guide	26
Appendix B: Codebook.....	29

Executive Summary

This white paper presents key findings and actionable recommendations based on qualitative analysis of narratives from support partners (i.e., fishermen’s wives, girlfriends, etc.) engaged in small-scale U.S. commercial fisheries. These voices, often underrepresented in formal data or policy forums, highlight the critical contributions, complex challenges and everyday adaptations that sustain local fishing economies and communities.

Despite the recognition of fishing communities under National Standard 8 of the Magnuson-Stevens Act (MSA; United States, 1976), participant experiences suggest that current fisheries policies do not fully capture or integrate the contributions of support partners or the broader social needs of fishing communities. In addition, while National Standard 2 of the MSA emphasizes the use of best available scientific information, the data gathered here helps fill important social science gaps that can be missing from fisheries management decision-making.

MAGNUSON-STEVENS ACT

STANDARD 2: CONSERVATION AND MANAGEMENT MEASURES SHALL BE BASED UPON THE **BEST SCIENTIFIC INFORMATION AVAILABLE**

STANDARD 8: TAKE INTO ACCOUNT THE **IMPORTANCE OF FISHERY RESOURCES TO FISHING COMMUNITIES TO PROVIDE FOR THE SUSTAINED PARTICIPATION OF, AND MINIMIZE ADVERSE IMPACTS TO, SUCH COMMUNITIES (CONSISTENT WITH CONSERVATION REQUIREMENTS)**

This study reveals how support partners contribute vital but largely invisible labor – bookkeeping, caregiving, financial planning, emotional support – that underpins the success and resilience of small-scale fisheries. Yet, these same households face increasing economic strain, governance exclusion, and wellbeing challenges that current systems are not designed to address.

In response to these findings, this white paper outlines four key recommendations:

1. **Create a Small-Scale Fisheries Advisory Board** to embed local knowledge and lived experience into policymaking.
2. **Implement an Equitable Participation Framework** to lower financial and logistical barriers to engagement.
3. **Deliver Outreach Workshops on Business Fundamentals** to strengthen household and community capacity.
4. **Design Outreach Events that Support Wellness and Inclusion** by removing alcohol-centric networking norms and creating safer spaces for engagement.

These recommendations, rooted in the lived realities of participants, are not intended as one-size-fits-all solutions. Successful implementation must account for local industry structures, cultural dynamics, and regional needs. Moreover, many of these ideas are already being explored at different

governance levels, and this paper builds on those efforts by focusing on the lived experiences of fishing families themselves.

Ultimately, this white paper calls for a more complete and compassionate understanding of small-scale fisheries, one that honors the depth of what it takes to hold these communities together and invests in building policy systems that are as dynamic, relational and resilient as the people they serve.

Introduction

Small-scale fisheries play a vital role in coastal economies, food systems, and cultural lifeways across the United States. Yet, much of the labor that sustains these systems - particularly the indirect, unpaid, or emotionally intensive work performed by partners – is not systematically captured in available data and thus remains less visible in both policy design and resource management frameworks, despite National Standards that require consideration of community impacts. Partners contribute directly through business management, logistics, and marketing, and indirectly through emotional labor, cultural preservation, and community-based support networks (Calhoun et al. 2016, Danowski, 1979, Dixon et al. 1984). These contributions are foundational to the resilience of fisheries-dependent communities – coastal and rural areas whose economies, identities, and traditions are closely tied to commercial fishing (Calhoun et al. 2016, Danowski, 1979, Dixon et al. 1984). These communities rely not only on the success of fishing enterprises but also on the often-unseen labor that sustains those enterprises and fosters social cohesion.

This paper uses the Food and Agricultural Organization (FAO) definition of small-scale fisheries, which characterizes them as operations involving relatively small vessels, limited geographic range, and strong ties to local economies and communities (FAO, 2020). On the other hand, industrial fishing fleets are large-scale operations that use large, fully mechanized vessels with onboard or land-based processing capabilities that employ extensive transportation networks for distribution typically focused on commercial profit.

While definitions vary across U.S. regions, this framing captures the family-based, community-dependent nature of the operations discussed here. Additionally, this paper draws on the Magnuson-Stevens Fishery Conservation and Management Act (MSA) definition of “fishing communities” – those substantially dependent on, or substantially engaged in, the harvest or processing of fishery resources to meet social and economic needs and recognizes the National Marine Fisheries Service (NMFS) emphasis on the cultural, social and economic dimensions of these communities (National Marine Fisheries Service, n.d.). These frameworks help situate the experience of support partners within broader discussions of fisheries governance and resilience.

This white paper focuses on the experience of support partners of small-scale fishing operators and was developed using a series of semi-structured interviews that were qualitatively and thematically analyzed. The analysis revealed three intersecting themes: 1) the significance of indirect and often invisible labor contributions, 2) the systemic barriers that limit full participation in governance processes, and 3) the adaptive strategies used by individuals and communities to navigate ongoing challenges and pressures.

Commercial fishing is often analyzed by focusing on active fishermen, with little attention paid to the essential supportive labor provided by their partners, as evidenced by the limited body of literature investigating topics related to support partners relative to commercial fisherman (Calhoun et al. 2016, Danowski, 1979, Dixon et al. 1984). This oversight obscures the full picture of how fishing communities operate and remain resilient. While small-scale fisheries are frequently evaluated through economic output metrics, this paper centers on the human infrastructure that sustains these systems – the administrative, emotional, and social labor that conventional models systematically overlook. In doing so, it highlights critical gaps in existing fisheries policy, particularly in relation to community-based social indicators (NOAA Fisheries, 2013), and identifies pathways for more inclusive, effective and equitable decision-making. Despite federal mandates, like National Standard 8 of the MSA, the integration of social science into fisheries management remains limited. Council members themselves have acknowledged a lack of clarity about how to use social data, with community often relegated to poorly contextualized or anecdotal sections of management documents (Gilden, 2005). In practice, social considerations are frequently treated as bureaucratic obligations rather than essential information for effective governance (Gilden, 2005). This failure to meaningfully incorporate human dimensions obscures the true cost of regulatory decisions and leaves the vital contributions of fishing households invisible. Addressing these gaps requires a fundamental shift: social sciences must be recognized as a core element of fisheries management, not an afterthought.

Historically, regulatory changes such as quota adjustments, seasonal closures, and stricter licensing requirements have intensified pressures on fishing families (Tuler et al., 2008) - often without considering the ripple effects of those who support the industry from shore. These changes can create economic instability and social strain, particularly for support partners who are typically responsible for navigating shifting expectations and emotional landscapes.

“We’re not opposed the right regulations to keep the fisheries healthy, but it just seems like every day there’s something new that’s stressful that comes along with fishing; whether it’s, like, you know, the markets, it’s the regulations, they want to close things. And so, I think those stressors are under, kind of valued and under exposed. And so, I think some of the places that are putting these kinds of things in place, don’t consider the impact to more than just the fishermen’s wellbeing, but also the impact to their families and their home life.”

All quotes featured in this paper represent direct quotes from project participants

The following sections present key findings from partner interviews, explore structural and policy-level challenges, and offer a set of actionable recommendations grounded in community insight. Ultimately, this paper argues for a more holistic approach to fisheries governance – one that

recognizes the full spectrum of labor necessary to sustain small-scale fisheries and keep their communities viable.

This paper advocates for a broader social policy framework – one that acknowledges, supports and includes the contributions and needs of those upholding the commercial fishing industry from behind the scenes.

Methodology

Participants were recruited via emails sent through existing networking groups for the target population: support partners of U.S. commercial fishermen (e.g. fishing industry associations). The sample included 6 participants from a diverse range of geographic locations including California, Alaska, Maine and Virginia; these states were selected initially due to existing research relationships with commercial fishers in each location, but participants were also solicited in other states. Criteria for participation in the study included that participants were over 18 and that the partners they support are involved in the U.S. commercial fishing industry. Participants had the option to receive a cash incentive compensating them for their time, experience and knowledge. These interviews explored a range of topics including contributions – direct and indirect, policy perspective, and resilience challenges and adaptation strategies.

Semi-structured interviews with individual participants were conducted via phone and Zoom in January and February 2025. This provided a framework to guide conversation, while still having the flexibility to adapt questions based on participant response leading to a more in-depth conversation and enable participant-inspired themes to emerge that the researcher may not have thought of (Bernard, 2017). The interview began with a brief (less than 10 minutes) overview of the study before entering an approximately 60-minute discussion of topics.

Interviews were audio-recorded with participant consent. Notes and audio recordings were transcribed and analyzed to identify common themes among and nuanced differences within participant responses (Bernard, 2017). MAXQDA qualitative analytical software was used to code and analyze transcripts (VERBI Software, 2021).

A thematic coding framework was applied to the qualitative data (i.e., interview transcripts) capturing both broad and specific themes. A combined deductive-inductive approach was used to develop themes, incorporating predefined themes prior to data collection and allowing for refinement based on patterns that emerged during analysis (Bernard, 2017). The coding process aimed to capture both frequency and depth of ideas allowing for the identification of recurring themes and meaningful variations across participant responses.

Coded data were analyzed using a qualitative thematic analysis approach that grouped segments by code to identify key messages and supporting evidence. Illustrative quotes were selected to convey viewpoints within each theme. Due to the qualitative nature of the data, emphasis was placed on thematic richness and insight instead of applying statistical weight.

The sample for this study consisted of six participants with a range of fisheries backgrounds. Fisheries represented in the sample included salmon, halibut, lobster, sea urchin, menhaden, scallop, crab and oysters. Gear represented included longliner, pots, diving, trawler, hook & line, bottom lease. Trip length ranged from day trips to weeks long trips. Years involved with commercial fisheries ranged from 7 to 40 years. Locations included California (2), Alaska (1), Maine (1) and Virginia (2).

Recruitment for this study was open to anyone providing non-fishing support; however, all participants in this sample identified as women. As such, the findings reflect their experiences. Future research should continue to explore the full range of individuals who contribute support labor in this context.

This project was approved by William & Mary Institutional Review Board. Protocol ID: PHSC-2024-06-26-17111.

Note: The interview guide and codebook used during data collection can be found in Appendices A and B

Key findings

1. Contributions

Contributions to the U.S. commercial fishing industry extend far beyond the act of harvesting fish. Participants described a wide range of essential roles that sustain the industry, encompassing both direct operational tasks, such as business administration, logistics and marketing, and indirect but equally vital forms of support. These include managing households, raising children, maintaining financial stability during lean seasons and providing emotional resilience in the face of uncertainty. While often unrecognized in official statistics or policy discussion, this hidden labor is foundational to the success and sustainability of fishing enterprises and the communities that depend on them.

Contributions have been divided into two sections: direct and indirect. Direct contributions are those directly linked to fishing operations and financial stability of the business. Indirect contributions are unseen labor that supports fishing households and fishing communities that is often unpaid and unrecognized.



Direct

Administrative tasks – Tasks such as financial management, accounting, taxes, and permit/lease management are often performed behind the scenes by support partners who are not formally recognized in these roles. These tasks require substantial knowledge and attention to detail but are typically not accompanied by formal training or preparation.

“I’m on the backend, making sure that all of his permits are staying up to date, that all of our bills are paid; our insurance is up to date.”

This lack of formal preparation for such essential tasks highlights a gap in business readiness, as many partners learn on the job without the support of structured business education or guidance.

Business development and customer engagement - Support partners frequently handle the outward-facing elements of the business, including marketing, product branding, direct sales, customer relations and maintaining a social media presence to promote products. These responsibilities, which are critical to the success and growth of business, often fall on support partners without formal training in marketing or business development.

“Connecting with him about different fish he might be bringing in so that we can try to market them and sell them directly instead of going through a fish buyer because that brings in more money.”

While these tasks require significant skill and creativity, the absence of targeted business training or resources can present a major challenge to the sustainable growth of the operation.

Trip preparation and logistics – Tasks like gear maintenance, securing supplies, and provisioning food for fishing trips are labor-intensive yet critical to successful operations.

“[I do] all his meal planning and prepping, too, so that when they’re on the boat they have food because that’s not within his capacity to do that. I’m like the remote chef for the boat.”

Indirect

Household leadership tasks – These include financial planning, childcare and home maintenance which enable fishermen to focus on operational tasks. While household contributions are foundational to the success of the business, they are often overlooked in economic assessments.

“When he’s not home, then it’s all on me.”

“Being home and working and taking care of the children and doing laundry and doing food and doing, like, everything. I just feel burnt out all the time.”

Community-based networks: Some participants described contributing beyond their own households or fishing operations by actively engaging in community-based networks. These contributions included advocacy on behalf of small-scale fishermen, taking on leadership roles within formal organizations, and sharing knowledge and resources within their local communities. Support partners often take on these responsibilities because the fishermen themselves lose money if they take time away from their operations. Through these efforts, support partners play a critical role in strengthening social cohesion and ensuring the voices of fishing families are represented in broader conversations about the future of the industry despite not feeling heard.

“A lot of times, I’m the one that is writing to Fish & Wildlife...”

Support partners also engage with regional programs focused on fisher’s health, safety and advocacy efforts to support the long-term viability of the industry.

Emotional labor: In addition to logistical and physical labor, emotional contributions were frequently highlighted by participants. This included providing emotional support to family members and each other during regulation changes, helping manage stress and bolstering morale. Participants described emotional support as being invisible beyond the fishing community, yet critical to sustaining the overall well-being of the business, family, and community.

“Just trying to support him, as governmental agencies and NGOs come in and try to take away areas that he’s been fishing for 20-years that stress comes in. It’s hard. It’s really hard”

2. Resilience and Challenges

Fishing communities are constantly confronted with uncertainty, driven by economic pressures, wellbeing concerns, and regulatory challenges. To cope, participants discussed a variety of resilience strategies they have developed over time. However, despite these efforts, fishing families continue to face significant hurdles. Participants shared a range of personal, operational and systemic challenges that hinder their ability to maintain their roles and contribute fully. These challenges are often compounded with economic uncertainty intersecting with regulatory burdens and emotional strain.

Coping Strategies

Participants described a range of strategies they use to cope with the economic and emotional stresses associated with the commercial fishing industry.

Income diversification: To buffer against market volatility and economic shocks, many participants pursue multiple income streams either by expanding activities within the fishing business or by branching into new areas.

Supplemental income: It was common for support partners to maintain outside employment to provide financial scaffolding for the family, including access to health insurance.

“I have a job outside the home. I used to not have to work. He used to make enough money in the summer. He didn’t have to work wintertime. But not no more.”

Direct sales: Some families pivoted toward direct-to-consumer sales, allowing them to capture a greater share of profits compared to selling through processors or other intermediaries

Knowledge sharing: Participants emphasized the importance exchanging information as a way to strengthening community bonds and collectively adapting to changing conditions.

Community-based support networks: Social ties and local networks play a central role in buffering stress and fostering community resilience. From informal childcare arrangements to emotional support, these systems often filled gaps where formal institutional support is lacking. These networks appeared to be gendered, with women carrying the emotional and organizational burden.

“Just being able to talk to them (support network) and know that I’m not the only person going through this feels really good. We can just share. Like, yeah, I fed my kids

chicken nuggets last night, too, and that's okay...I hear you, and it's hard, but I love you."

Economic Pressures

Rising costs, market fluctuations and inflation were among the most cited concerns. Participants noted that while they can continue fishing, profit margins have become thin, affecting not only their business decisions, but family dynamics. All participants emphasized the difficulty small-scale fishers face in competing with industrial fleets.

"...the stress of the instability is probably the hardest thing and the lack of resources that feels supportive"

Emotional Strains

The emotional toll of working in an uncertain and high-risk environment was a recurring theme. Several participants described feelings of burnout, isolation, or the emotional burden of supporting others while suppressing their own stress. Many shared that they carefully chose what to discuss when their partners were on fishing trips to protect them from additional worry.

"I think just also the expectations of what you can discuss while someone's on the water. That being, you know, save kind of the big things for when they're at home. Because it'll just frustrate you both. If you try to talk when he's coming in or she's coming in or, you know, while they're working. So that can be really tough, especially when you have some really pressing things to discuss. But, oftentimes if not, it just doesn't make sense. So, yeah, I'd probably tell them a few things, but, I think community and then also just, you know, trying to save those important conversations when they're in and not on a boat is probably going to work out best."

These emotional strains were often compounded by gendered expectations around caregiving and emotional labor.

"...part of my wellbeing over the years has been more in being able to have access to things like childcare."

Regulatory Burdens

Participants described a regulatory landscape that favors large commercial operations over small-scale fishers. Concerns ranged from the high cost of compliance to frustration at the perception of being overlooked during policymaking processes. There was also a strong sense that policies are often made without adequate stakeholder input fostering mistrust and disempowerment.

“They’re starving us out”

3. Policy Gaps

While many participants discussed day-to-day survival and adaptation, a deeper thread running through their narratives revealed systemic shortcomings. These perceived policy gaps reflected a strong feeling of underrepresentation and exclusion from decision making. Although the MSA targets fishing communities, it does not specifically address the partners of commercial fishermen who play an equally critical role in sustaining these operations. While some of the indicators used in social impact assessments (SIA), such as workforce structure and women-headed households, may indirectly reflect the contributions of these partners, they are not typically the primary focus of SIA processes. This gap underscores the need for targeted data and support that more accurately reflects the realities of their lives and work.

Lack of Recognition

Participants strongly expressed a sense of invisibility in the regulation process, often feeling overlooked either as partners or as a small-scale fishing family. They described policies that focus on economic output and/or conservation efforts but fail to account for household contributions to the industry. This gap in representation disproportionately impacts small-scale fishers whose contributions – particularly those made by partners - are rarely acknowledged in formal policy frameworks.

*“Fisheries may feel different (small vs large scale)
but they’re all treated the same, I think that’s
probably the biggest, biggest thing.”*

This quote reflects a frustration that small-scale fishers, despite their different needs, face similar regulatory burdens as industrial operations, with little regard for the unique support structures that sustain them.

Barriers to Participation

Participants explained that while opportunities for participation exist, many feel unable to access them due to time constraints, lack of compensation, and a sense of being unheard. Even when they do participate, there is often a perception that resource management systems have little incentive to seriously consider their concerns. This feeling of marginalization reflects broader patterns of

diminished individual agency in decision-making processes, where a belief that one's actions cannot effect change leads to lower engagement (Hickey & Mitlin, 2009).

“I’m trying. I’m writing to them. I’m trying, but I am not, I’m not being heard.”

“There’s not a lot of money in our pockets. There’s not a lot of incentive for anybody to listen to us because there’s no money backing it. It’s just us saying, this is what we’ve done, and this is our family, and you’re literally taking it away from us.”

Need for Support

Participants emphasized the need for targeted support, particularly financial assistance through grants, to help them adapt to industry shocks such as regulatory changes, area closures, or costly gear modifications. They also expressed frustration that when financial assistance is available, the process was slow and often out of sync with the urgency of their needs. In addition to financial aid, participants identified a pressing need for guidance on the business side of fishing operations, including skills like bookkeeping, marketing and compliance management. Many felt that the broader impacts on fishing communities are often overlooked in resource distribution.

“...how this impacts the broader community is not necessarily ever a priority.”

Recommendations

Before outlining recommendations, it is important to acknowledge the limitations of this study. Due to time constraints and the scope of engagement, the findings and recommendations presented here may not fully capture the full diversity of experiences across all regions or fisheries. Each recommendation should be adapted to reflect the unique industry, cultural, and geographic context where it is implemented.

These recommendations are rooted in the lived experiences and insights shared by the support partners who participated in this work. In some cases, versions of these ideas are already in practice or in development at various levels of governance. The following recommendations represent the areas of greatest need identified by participants themselves. However, it is important to recognize that many of these actions, while vital, may be challenging to implement and will require sustained commitment, collaboration and flexibility.

Taken together, these recommendations aim to strengthen small-scale fisheries by creating more inclusive, equitable and responsive policy systems – recognizing that resilient fisheries are built not only through sustainable harvest practices but also through strong, supported and connected communities.

Recommendation 1: Create a Dedicated Small-Scale Fisheries Advisory Board

Finding

Participants involved in small-scale and community-based fisheries report feeling systematically excluded from policy and regulatory processes. They described a lack of representation in decision-making forums and a disconnect between current regulations and the realities of their operations. This underrepresentation results in policies that are difficult to implement, create unintended burdens, or fail to support the viability of small-scale fisheries.

“No, I don’t even think they think about the fishermen’s role when they’re making decisions. It’s incredibly dehumanizing.”

Before proceeding with creating an advisory board, it would be valuable to assess the current level of representation for small-scale fishers. Existing Fisheries Management Councils (FMCs) have bylaws outlining membership distribution including regional representation, but the representation of small-scale fishers is not clearly defined. Reviewing bylaws and council membership data can help inform how a dedicated advisory board could complement or fill gaps in the current system. For example, if small-scale fishers are underrepresented in councils, the establishment of a dedicated advisory board in each region could ensure their voices are included in policy discussions.

Recommendation

Create a dedicated **Small-Scale Fisheries Advisory Board** at the state or regional level composed of:

- Fishers and fishing families representing different gear types and geographic areas
- Representatives from processing, marketing, and support roles
- Experts in rural economic development, equity, and ecosystem management

The board should meet regularly and be formally integrated into the regulatory review process, with authority to provide input on:

- Proposed regulations
- Program funding opportunities
- Emergency response planning
- Data collection initiatives

Representation should prioritize equity – ensuring that women, Indigenous, and historically excluded voices are included and compensated for their time. While some advisory committees cover travel expenses, direct compensation for participants’ time should be considered a necessary step toward increasing participation from underrepresented groups. By compensating participants for their time, the board could better reflect the diversity of small-scale fisheries and make it more feasible for individuals from various socioeconomic backgrounds to engage meaningfully in decision-making processes.

To ensure inclusivity, the definition of “small-scale” should be flexible and context-specific, acknowledging that small-scale fisheries may vary by vessel size, landing volume, and business structure. This adaptability will allow diverse fishery types to be represented effectively.

While fishery-specific associations already play an important role in advocating for their members, a broader advisory board can serve to unite these associations and other small-scale operators. By doing so, it can enhance the collective influence of small-scale fishers in policy discussions and create a more coordinated approach to resource management.

Policy Impact

Establishing a dedicated advisory board would:

- Institutionalize stakeholder input from small-scale fishery participants, addressing current gaps in engagement
- Increase the legitimacy and feasibility of regulations resulting in better compliance and outcomes
- Surface informal and unpaid contributions ensuring that policies reflect the full scope of work in fishing households and communities
- Shift from reactive to proactive governance by integrating local knowledge into planning and problem solving

By building sustained, relational policy development rooted in lived experience, this advisory structure would foster trust, legitimacy and shared stewardship in fisheries management.

Supporting Evidence

Research underscores the importance of inclusive, co-managed systems for effective resource governance. According to Pomeroy & Berkes (1997), “effective co-management systems are often built on trust, shared decision-making, and local legitimacy - qualities frequently lacking in top-down governance models”. This highlights the need for a more collaborative approach, where local communities are actively involved in decision-making processes. Gelcich et al., (2010) further emphasizes that when local stakeholders are given formal advisory roles, compliance increases and management outcomes improve, suggesting that greater participation in decision-making processes would lead to better outcomes in fisheries management. A real-world example of this dynamic can be seen in California’s Dungeness Crab Task Force, a legislatively mandated advisory board that includes fishers, processors, and tribal representatives. The Task Force has improved communication between stakeholders and regulators, demonstrating how inclusive governance can be formalized and sustained over time. These examples reinforce the idea that formalizing

participation through advisory boards can not only enhance but also improve the effectiveness of fisheries management.

Recommendation 2: Implement an Equitable Participation Framework

Finding

Participants described multiple barriers to participating in decision-making processes including:

- Public comment meetings scheduled during active fishing hours or held far from home ports
- Lack of compensation for time, travel or income lost
- The dominance of larger commercial interests or NGOs with greater financial and staffing resource

As a result, small-scale fishers are often excluded from shaping the policies that directly impact their livelihoods.

“There’s NGO groups getting paid to go to meetings, but fishermen, they’re not getting paid. They’re actually taking money away from them. My husband hasn’t been able to go to some of the meetings because there’s only been two days to fish because of the weather - if he takes those days to travel to meetings, he’s losing a lot of money”

Recommendation

Implement an **Equitable Participation Framework** across all public and advisory processes. The framework should include:

- Stipends or per diem reimbursements for all small-scale fishers and household members who participate in meetings
- Hybrid and asynchronous participation options (e.g. virtual meetings, phone-in lines, written testimony) while investing in rural internet access and digital literacy support
- Rotating meeting locations to reduce travel burdens and promote local accessibility
- Childcare or caregiver stipends particularly for multi-hour or overnight events
- Pre-meeting prep materials written in plain language shared well in advance to allow for meaningful preparation

One participant emphasized a need for accessible communication:

“Having a way to have more digestible information for those that are not intimately [involved in fisheries policies], I don’t work on the ocean, I have a very different job. And so, for me to understand certain things it takes longer because I have to research and understand nomenclature. Having some kind of either bite-size, or communication in a way that is more layman’s terms for us to help interpret, the impact would be really great”

This framework should be institutionalized at state and regional levels and include periodic equity audits to evaluate and improve accessibility efforts.

Policy Impact

Adopting an Equitable Participation Framework would:

- Reduce participation barriers through accessible and equitable engagement
- Broaden the range of stakeholder engagement by reducing financial and logistical barriers
- Increase participation by working families and under-resourced communities who have been historically left out of decision-making
- Level the playing field between small-scale stakeholders and larger, well-funded entities
- Improve the equity, legitimacy, and trustworthiness of governing institutions

Ultimately, this recommendation strengthens participatory governance by recognizing the true cost of civil engagement for rural, working-class and marginalized stakeholders and directly addressing it.

Supporting Evidence

Research highlights that geographic isolation, lack of compensation for time, and policy jargon are key contributors to the chronic underrepresentation of small-scale fishers in governance processes (Breslow et al., 2016). Practical examples demonstrate that more equitable engagement is achievable: the North Pacific Fishery Management Council’s Rural Outreach Initiatives for instance, includes travel reimbursements and off-site community engagement sessions to ensure that small-scale fishers in remote Alaskan communities have meaningful opportunities to participate.

Recommendation 3: Build Practical Business Skills Through Targeted Outreach and Training

Finding

Participants expressed a strong need for accessible, non-intimidating training in the business aspects of running a fishing operation. While they have crucial roles in administration, marketing, and budgeting, few have had access to formal support or education in these areas. This learning gap limits opportunities for long-term planning, business growth, and financial sustainability especially for newer entrants and family-run operations.

“When I was doing administration stuff, I kind of kept feeling like, well, is there a right way to do this? Am I missing something? Is there something that I should be tracking that I’m not tracking?”

“Fishermen got in the business to fish, not to necessarily be businessmen, because that model of fishermen used to be able to rely on their income stream and be able to flourish in that income stream of just going, and fishing, and selling to the fish plant, that[model] is no longer existent.”

Recommendation

Develop and deliver regionally tailored outreach workshops focused on:

- Basic accounting and bookkeeping
- Financial planning and budgeting
- Business plan development
- Marketing, branding and customer engagement
- Navigating funding opportunities and grant programs

These workshops should:

- Be free or low-cost
- Use real-world, fisheries-relevant examples
- Be designed for people with no formal business training
- Prioritize hands-on, interactive formats
- Be co-facilitated by local fishers or business mentors where possible
- Provide childcare or caregiver stipends

Sessions should be offered seasonally to accommodate fishing schedules with flexibility to ensure broad participation and include follow-up support via phone, text, or drop-in clinics.

Policy Impact

This recommendation would:

- Empower small-scale and family-run operations with the tools to grow and stabilize their business
- Recognize and invest in the administrative and entrepreneurial roles often held by women
- Support generational succession and sustainability in small-scale fisheries
- Increase access to funding by demystifying the application and grant-writing process

Supporting Evidence

Entrepreneurial training has been shown to improve adaptive capacity, particularly in undercapitalized communities where access to traditional financial resources is limited (FAO, 2019). Existing programs such as Alaska Sea Grant’s FishBiz (<https://alaskaseagrant.org/fishbiz/>), provide a model for successful program development. This program delivers targeted information about business planning, direct marketing, and financial management specifically tailored to the needs of fishers and fishing families. Additionally, aquaculture-based business outreach programs such as those offered at the University of Maryland and Auburn University offer valuable insights into creating accessible business planning courses for those new to the field. Maine’s Aquaculture in Shared Water’s program, which focuses on business skills for women, is another key example of how fisheries and aquaculture communities are supported with tailored, practical business education. These programs demonstrate how business skills outreach can be effectively designed for working fishing communities and scaled to meet regional needs.

Recommendation 4: Design Outreach Events that Support Wellness and Inclusion

Finding

A subset of participants raised concerns about the normalization of alcohol at outreach events, particularly in communities where substance abuse and wellbeing challenges were prevalent. For individuals in recovery or those affected by addiction, these environments can be alienating and unintentionally exclude those most in need of support.

“It frustrates me to no end when people talk about events for fishermen and then accompany it with beer or alcohol because I think it just perpetuates the problem”

Recommendation

Shift the culture and structure of outreach by:

- Scheduling events in the morning or early afternoon
- Providing coffee, tea, and food rather than alcohol
- Chose neutral, family-friendly locations (e.g. libraries, community centers, co-ops)
- Offering clear, alcohol-free spaces for networking and discussion
- When alcohol is present at broader community gatherings, ensure that alternatives and supports are available, and that no one is expected to “network over drinks”

Policy Impact

This shift would:

- Make outreach events more accessible to individuals in recovery, caregivers, youth, and others excluded by alcohol-centric spaces
- Normalize healthier engagement models within fisheries culture
- Signal a commitment to wellbeing, inclusivity and equity in how support is delivered
- Increase participation among individuals who currently avoid events due to substance-related concerns

By aligning outreach practices with community wellness, agencies can foster more inclusive, safer, and more productive spaces for learning and collaboration. Concerns related to alcohol were specifically mentioned during interviews, however, it is possible that greater attention to wellness overall could be beneficial, and additional concerns may be a leading priority in other communities.

Supporting Evidence

Research indicates a concerning link between alcohol use and accidents in the fishing industry with 61.0% of the alcohol-consuming fishermen reporting involvement in an accident due to alcohol consumption (Stoll et al., 2020). The need for a shift is further emphasized by the FISH Wellness Act of 2023 which, while not passed, demonstrates an increasing recognition of wellbeing issues within the fishing communities. Moreover, NOAA and local partners in Hawai’i and the Gulf Coast have begun emphasizing morning sessions, family-friendly environments and cultural safety in outreach events, aiming to reduce substance use triggers and improve participation in community activities.

Conclusion

This white paper highlights the urgent need to address the unique needs and challenges faced by fishing communities to ensure the sustainability and wellbeing of the fishing industry. Small-scale fisheries are not merely an economic sector; they represent intricate, interdependent systems that rely on families, communities, and a deep sense of place-based knowledge and care. However, these systems are under strain from a combination of economic pressures, regulatory burdens, emotional labor and systemic exclusion.

Participants in this study courageously shared the weight of these challenges openly from underrepresentation in decision making, to being overlooked in policy and support systems, to

carrying invisible emotional and logistical labor. Yet, they also revealed the powerful pathways of resilience that thrives in these communities through income diversification, knowledge sharing, community-based support networks and quiet leadership within their communities that go unnoticed in larger policy discussions.

In response to these realities, this white paper offers four key recommendations to support the people at the heart of small-scale fisheries.

1. **Create a Small-Scale Fisheries Advisory Board** – This board should embed local voices and lived expertise into policymaking at regional or state levels, ensuring that the concerns of small-scale fishers are directly represented in decision-making processes.
2. **Implement an Equitable Participation Framework** – To reduce financial and logistical barriers, this framework will provide stipends, hybrid participation options, and support for caregivers, ensuring that all stakeholders, especially those in rural and underrepresented communities, can engage in public and advisory processes.
3. **Build Practical Business Skills Through Targeted Outreach and Training** – These workshops should focus on critical skills like accounting, financial planning, and marketing to empower fishers and fishing families with the knowledge and tools necessary to thrive in an increasingly complex and competitive industry.
4. **Design Outreach Events that Support Wellness and Inclusion** – By shifting away from alcohol-centric gatherings and creating family-friendly, wellness-focused events, outreach efforts can ensure greater accessibility and inclusivity for all community members, including those in recovery or impacted by substance abuse.

Together, these recommendations aim to transform fisheries policy from transactional to relational – recognizing that resilience is not just built on the water, but at kitchen tables, in quiet acts of support, and through everyday decisions that keep fishing communities afloat. By listening closely and responding intentionally, equitable support institutions can play a transformative role in building more inclusive, sustainable, and supportive fisheries systems. In these systems, everyone has a voice that is heard, and everyone has support they need to thrive.

Next Steps and Future Research

This study covers a range of structural challenges and hidden contributions within small-scale fisheries and reveals opportunities for deeper investigation and policy innovation. Future work should build on these findings to quantify impact, refine representation, and improve community wellbeing across the fisheries landscape.

1. **Economic Evaluation of Indirect and Unpaid Contributions**

While qualitative findings clearly demonstrate the significance of informal labor (e.g. bookkeeping, caregiving, financial planning, emotional labor), the economic value of these contributions remains unmeasured in most analyses of fisheries systems.

Future research could include:

- Time-use studies to quantify hours of unpaid labor within fishing households
- Shadow pricing models to estimate the market value of household and administrative roles
- Comparative economic impact analysis between small-scale and larger operations that factor in total labor inputs

By understanding these contributions, we can more accurately reflect the economic reality of fishing households and inform policy that recognizes and better supports the whole system.

2. Improved Representation in Governance Structures

Findings indicate that small-scale fishers are often excluded from decision-making processes that affect their livelihoods. To address this gap, further research is needed to develop governance models that are both equitable and effective, ensuring that the voices of small-scale fishers are integrated into policy design and implementation.

Key questions include:

- What forms of governance (e.g., advisory boards, co-management systems) enhance legitimacy and participation among underrepresented groups in small-scale fisheries?
- How do representation dynamics vary across regions, fishing gear types, fishery, and scales of operation?
- What structural supports (e.g., stipends, mentorship, dedicated time) can sustain long-term engagement in fisheries governance?

Such research would directly inform the creation of inclusive, place-based policy models, fostering greater legitimacy, engagement, and responsiveness within governance structures. By elevating lived experiences, these policies can better address the unique challenges faced by small-scale fisheries.

3. Social and Wellbeing Impact Assessments

Participants frequently described wellbeing, emotional, and relational strain within fishing households. While the MSA mandates Social Impact Assessments (SIAs) for fishery management changes, the process is often constrained by time, resources, and access to primary data. It is unclear who conducts these assessments, whom they engage to gather data (e.g. support partners, fishermen, etc.) and whether existing data sources are utilized or if

new data collection is attempted. Given the limitations, it is likely that new, in-depth data collection to inform SIAs on the social and emotional aspects of fishing communities is rare.

Furthermore, the shortage of non-economic social scientists in the decision-making process exacerbates this issue. The white paper from the Pacific Fishery Management Council (2005) highlights that the lack of non-economic social science expertise in fisheries governance leads to an underrepresentation of social considerations in policy decisions. This gap underscores the need for integrating social science perspectives into fisheries management to ensure policies are inclusive and reflective of the communities they affect.

Future research should focus on developing comprehensive metrics and methods to assess:

- Emotional burden and resilience within fishing households
- Wellbeing challenges related to industry stressors (e.g., regulatory changes, financial instability, uncertainty)
- Community-level wellbeing indicators such as social cohesion, support networks, or intergenerational continuity

Currently, SIAs are performed at the Council level during management changes, but their scope and depth may not fully capture the lived experience of small-scale fishers. Expanding the SIA process to include a more robust and systematic data collection, and ensuring that these assessments integrate wellbeing indicators, could help inform policymakers and address the full social impacts of fisheries management decisions.

Advancing this work will require interdisciplinary collaborations bringing together researchers, fishers, families and policymakers to develop tools that are just as dynamic, relational and resilient as the communities they aim to serve. These next steps chart a course toward a more complete and compassionate understanding of small-scale fisheries – one that honors the full depth of what it takes to hold it all together.

“A lot of women do play more of a role in administration. I think that is an under resourced connection; an ignored part of the industry that if it was better, embraced, we could have a larger impact on fishermen’s wellbeing.”

References

*At the time of this writing, there is uncertainty surrounding the continued public availability of some federal resources and data that have historically informed fisheries-related research and policy. This white paper references materials that were publicly accessible during the research process; however, future access to these sources may be limited due to evolving federal transparency and data-sharing policies.

Alaska Sea Grant (n.d.) FishBiz: business resources for fishermen. University of Fairbanks Alaska.
<https://alaskaseagrant.org/fishbiz/>

Breslow S, Holland D, Levin P, Norman K, Poe M, Thomson C, Barnea R, Dalton P, Dolsak N, Green C, Hoelting K, Kasperski S, Kosaka R, Ladd D, Mamula A, Miller S, Sojka B, Speir C, Steinbeck S, Thomson C, Tolimieri N. 2016. Human dimensions of the Connected Coast: A synthesis of social science in the California Current. NOAA Technical Memorandum

Bernard, Russell. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. 6th ed., Rowman & Littlefield, 2017.

Calhoun S, Conway F, Russell S. 2016. Acknowledging the voice of women: implications for fisheries management and policy. *Marine Policy* 74:292-299

Danowski F. 1979. Fishermen's wives: coping with an extraordinary occupation. *University of Rhode Island Marine Bulletin* 37

Dixon R, Lowery R, Sabella J, Hepburn M. 1984. Fishermen's wives: a case study of a middle Atlantic coastal fishing community. *Sex Roles* 10:33-52

FAO. 2019. Enhancing the contribution of small-scale fisheries to food security and sustainable livelihoods. FAO Rome

FAO. 2020. The state of the world fisheries and aquaculture 2020: sustainability in action. Food and Agriculture Organization of the United Nations

Gelcich S, Hughes T, Olsson P, Folke C, Defeo O, Fernandez M, Foale S, Gunderson L, Rodriguez-Sickert C, Scheffer M, Steneck R, Castilla J. 2010. Navigating transformations in governance of Chilean marine coastal resources. *PNAS* 107(39): 16794-16799

Gilden J. 2005. Social science in the Pacific Fishery Management Council Process. Pacific Fishery Management Council. <https://www.pccouncil.org/documents/2020/01/social-science-in-the-pfmc-process.pdf/>

Hickey S & Mitlin D (Eds). 2009. *Rights-based approaches to development: exploring the potential and pitfalls*. Kumarian Press.

National Marine Fisheries Service. n.d. Magnuson-Stevens Fishery Conservation and Management Act. National Oceanic and Atmospheric Administration

NOAA Fisheries. 2013. Social indicators for community-based fisheries management: a social impact assessment framework for small-scale fisheries. National Marine Fisheries Service. <https://spo.nmfs.noaa.gov/sites/default/files/TM129.pdf>

Pomeroy R.S. & Berkes F. 1997. Two to Tango: The role of government in fisheries co-management. *Marine Policy* 21(5): 465-48

Stoll E, Puschel K, Harth V, Oldenburg M. 2020. Prevalence of alcohol consumption among seafarers and fishermen. *International Maritime Health*. 71(4): 265-274

Tuler S, Agyeman J, Agyeman J, Pinto da Silva P, LoRusso K, Kay R. 2008. Assessing vulnerabilities: integrating information about driving forces that affect risks and resilience in fishing communities. *Human Ecology Review* 15(2): 171-184

United States. 2007. Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801-1891d (as amended through January 12, 2007). U.S. Government Printing Office. <https://www.fisheries.noaa.gov/resource/document/magnuson-stevens-fishery-conservation-and-management-act>

VERBI Software. MAXQDA 2022. Berlin: VERBI Software, 2021

Appendix A

Interview Guide

OBJECTIVES

- Contributions partners make to the industry (admin, household, stakeholder, societal well-being)
- Resilience and adaptation strategies (socio-economic resilience of fishing communities: how they can maintain their livelihoods and desired way of living after undesirable shocks)
- Comparison of multi-state partner support to identify similarities (contribution and strategies)
- Recommendations for policy support for fishery-dependent communities

QUESTIONS

Background:

1. Can you tell me a bit about yourself? Describe your connection to the commercial fishing industry.

- How long have you been connected to the commercial fishing industry?
- What fishery are you involved in?
- How long partner trips? Seasonal? Daily?
- Term used to describe partner (ie. fisherman, waterman, bayman)
- What capacity is fishermen involvement in fishery (deckhand, captain, owner etc.)

2. What does a typical day look like for you when your partner is home vs when they are away?

3. How do you feel your role has evolved over time?

- With changes in the industry?
- What kind of changes?

Support and contributions:

1. How do you provide support to your partner in their work?

- Are there specific tasks or responsibilities you take on to ensure the success of the fisherman?
- How do you feel your contributions impact your partner's success and well-being?
- Do you feel your efforts are recognized within the community?
 - The industry?
 - Governing agencies?

Livelihood and Financial Resilience

1. What strategies have you used to maintain financial stability?

- Is it challenging to plan for the future?

2. Have you taken on additional roles or responsibilities to supplement your household's livelihood?

- How do you balance those with your role in the fishing industry and household responsibilities?

3. What types of support or resources would help you build stability for your family's livelihood?

Challenges, Resilience and Coping Strategies

1. What are some of the biggest challenges you face?

2. What strategies have you developed to cope with the unique demands of this lifestyle? ie long absences, financial uncertainty, etc.

- How do you maintain your emotional wellbeing during times of uncertainty, such as bad seasons or financial instability?
- How do you support your partner emotionally during high-pressure times such as long fishing trips or regulatory changes?
- Any additional unique demands? How do you cope with them?

Community and Support Networks

1. Do you connect with other partners of commercial fishermen?

- If so, how has this network helped you?
 - Are there formal or informal support systems in your community for people in your role?
 - How would you describe your sense of belonging or connection to the fishing industry?
- If not, would you like to connect with other partners?
 - How might you benefit from these connections if they existed?
 - How would you like to connect; virtually or in-person?

Adaptation for Well-being

1. How have you adapted your lifestyle to meet the demands of the fishing industry?

- What role does your community play in supporting your well-being?
- How do you handle periods of separation from your partner?

Policy Awareness and Role in Development

1. What is your familiarity with current regulations that affect the industry?

2. In what ways do you think you can contribute to shaping fisheries regulation and management strategies?

3. Do you feel that existing regulations consider the contributions and needs of partners and fisheries dependent communities?

- Why or why not?

4. Have you ever had the opportunity to provide input on policies or decisions that impact the fishing industry?

5. Do you feel that your voice is valued in discussions about the fishing industry with governing agencies?

- If not, what barriers prevent you from being heard?

Support and Policy Needs

1. What specific challenges do you think regulations could address to better support your family?

2. Are there any gaps in resources that you believe need to be addressed by regulation makers?

3. How do current regulations impact your family's livelihood and well-being?

- Community well-being?

4. What types of programs or initiatives would you like to see implemented to support families and fisheries-dependent communities?

Policy Evolution and Recommendations

1. Do you think changes in regulations that consider adverse impacts to fisheries-dependent communities could strengthen the fishing industry and its communities?

- If you could advocate for one change to fisheries regulations that would benefit your household or community, what would it be?

2. What would you like others to understand about your role in the fishing industry?

3. Are there any resources or support systems you wish were available to you?

4. How do you see your role changing in the future, if at all?

5. Are there any practices or strategies you've developed that you would recommend to others in a similar role?

Appendix B Codebook

Themes	Subthemes	Sub Subthemes	Definition
Fishing activity	Fishery		Which fisheries are participants and partners involved in; gear used
	Time in fishery		How long as the participant been involved in some aspect of commercial fisheries
	Time spent fishing		Duration of fishing trips: daily, multiple days etc. Seasonality of fishing trips: year-round, time of year
Contributions	Direct: Business/operation	Administrative	Handling finances, obtaining permits and leases, updated on regulation changes
		Stakeholder	Attending policy meetings, writing letters, advocating for fishermen and fishing communities
		Marketing	Social media accounts, creating marketing material for product
		Sales	Contacting buyers, selling product, communicating availability of product, delivering product
		Trip Preparation & logistics	Purchasing food and supplies for fishing trips, prepare equipment for trips, contacting deckhands
	Indirect: Household	Maintenance	Maintaining vehicles, completing or arranging to have completed household repairs,
		Childcare	Taking care of children, attending school meetings, attending extracurricular activities, taking to dr appointments, emotional support
		Finances	Paying bills, filing taxes,
	Indirect: Supplemental Income		Working outside the home to provide financial stability

Themes	Subthemes	Sub Subthemes	Definition
	Indirect: Emotional Support		Reassure fisherman and children during times of high stress,
Resilience	Challenges		Challenges to maintaining the family livelihood
	Adaptation/Coping	Therapy	Outside support to cope with unique lifestyle
		Support Networks	Formal/informal networks organized to support each other
		Supplemental Income	Providing financial stability
Policy	Involvement	Challenges	Challenges to providing feedback on management/regulatory decisions
		Valued	Does participant voice feel valued in discussions with managing agencies
	Perspective	Lack of inclusion	Participants do not feel impacts on community are considered when decisions are being made
		Lack of support	Participants do not feel supported by governing agencies for the risks they are taking
		Lack of recognition	Participants do not feel recognized by the industry
	Recommendations	Communication	Participants feel communication could be improved through greater transparency and process explanation
		Resources	Resources participants feel would be beneficial
		Support	Suggestions for greater support for fishing communities by managing agencies