

Strengthening Community Resilience:

A Roadmap to Manage Climate Impacts on Washington's Coastal Communities

October 2023



“We knew this *beast of climate change* was coming for us, but now, *it’s pounding on the door!*”

—Governor Jay Inslee, July 2023

*Perched on the remote reaches of Washington’s outer coast and hours from the metropolises of Seattle or Portland, the communities of **Westport and Ilwaco** are highly dependent on commercial and recreational fisheries and are extremely vulnerable to impacts from climate change.*

*Concerned community members created a common vision and this roadmap, which is a “living document” that identifies near-term priority actions within key outcome areas aligned with our vision. It also includes a multitude of climate-related issues that have yet to be fleshed out and an assessment of our communities’ **ability to adapt**.*

Since key chinook stocks were listed under the Endangered Species Act in 1992, our communities have been hit with multiple fisheries-related hardships. Over the years, dozens of businesses supported by fisheries have closed and many multi-generation fishing families have left to seek employment elsewhere. Some have managed to survive by diversifying fishing portfolios or business interests, but many have steered the next generation toward careers with more stability as entering fisheries can be cost-prohibitive and the financial insecurity often overwhelming.

As a result, our communities have experienced an ongoing recession with high unemployment and a lack of political attention and financial support compared to the state’s more densely populated areas. The lack of capital has made it difficult to maintain, much less build or grow, the infrastructure needed to support fisheries, ports, and local businesses.

*With changing climate and ocean conditions impacting fisheries such as Dungeness crab, not only is the state’s economy at risk, but **we face the potential loss of our culture and identity**.*



Rapid changes in climate and ocean conditions are impacting Washington's coastal fisheries and communities—resilience requires **bold actions**

For the past 50 years, Washington's coastal community members have worked extensively with tribal, federal, and state fishery co-managers to promote fisheries conservation, support economically viable and sustainable fisheries, and provide recreational opportunities.

REBUILD DEPLETED STOCKS

Since 2000, we have taken proactive steps to rebuild depleted rockfish stocks. All have been rebuilt, except yelloweye, which is on track to recover by 2029, 60 years ahead of schedule.

FEDERAL DISASTER RELIEF FOR COASTAL FISHERIES

We worked with the Governor's Office to secure federal fisheries disaster relief funding in 2015 and 2016 in response to detrimental climate effects on Washington's salmon and shellfish.

NEARSHORE AND ESTUARY PROTECTION

We have worked with decision-makers to enact measures and policies to protect nearshore and estuarine habitats critical to marine life.

PORT ACCESS ROUTES

We are continuously working with the U.S. Coast Guard and others to avoid spatial conflicts among ocean uses to ensure fisheries and transportation remain economically viable.

PROTECT PUBLIC HEALTH

We are continuously working with lawmakers to enact sanitary shellfish rules to protect public health through restrictions to prevent tainted shellfish (e.g., from high domoic acid levels) from entering seafood markets.

INTERNATIONAL SALMON FISHERIES MANAGEMENT

We played a key role in negotiating chinook catch reductions in Canadian and Alaskan fisheries to protect and recover Washington's salmon stocks that migrate north to maximize returns to natal rivers and streams.

FISH HABITAT CONSERVATION AREAS

We worked with tribal co-managers and stakeholders to identify and protect corals, sponges, and rocky reef habitats as conservation areas for important groundfish stocks.

But with climate change on our doorstep, we need to **do more—strategically and quickly**

Strengthening Our Resilience— Prepare, Manage, Adapt

Achieving resilience in the face of rapidly changing climate and oceanographic conditions requires advance preparation and management frameworks that allow fisheries and communities to respond quickly and enact adaptive measures.

Washington’s coastal communities must: collaborate with tribal co-managers, secure the support of federal and state lawmakers, and partner with stakeholders to accomplish **our vision**:

Our communities are safe places to live, work, and enjoy with a vibrant infrastructure and thriving businesses. They are connected to a healthy ocean that continues to provide economically viable fisheries and support activities that preserve our cultural heritage.

Community members from Westport and Ilwaco formed a core team with decades of experience across multiple sectors, including fishing, fish buying and marketing, communications, science, economic development, and governance, to focus on developing a roadmap to enhance our capacity to adapt and strengthen our resilience.

This roadmap is a “living document” that identifies four key outcome areas for near-term priority actions and long-term strategies which align with the community vision, as well as a compilation of other climate-related concerns for which strategic actions need to be developed, and an independent assessment of the communities’ adaptive capacity.





Key Outcome Areas

HEALTHY OCEAN

The California Current Large Marine Ecosystem remains healthy and productive. While there are many factors affecting ocean ecosystem health—natural and human-caused—the potential effects of offshore energy development on the ecosystem are not well understood and are a priority concern for us.

ECONOMICALLY VIABLE FISHERIES

Fisheries are managed sustainably, and fishery-dependent businesses are thriving. Climate is affecting our coastal Dungeness crab fishery in various ways, including producing more intense and frequent harmful algal blooms and affecting where humpback whales forage offshore.

VIBRANT INFRASTRUCTURE

Our communities have high quality infrastructure. The current infrastructure that provides for public safety and education, housing, transportation, thriving businesses, and working waterfronts must be repaired and maintained for today's residents and visitors as well as for the future.

SUCCESSFUL IMPLEMENTATION

Community members are organized into a Coastal Communities Coalition. Having an organized structure will facilitate the collaboration, cooperation, and partnerships needed to ensure roadmap implementation success.

Building Our Path to Resilience

WE DEVELOPED A SHARED VISION FOR OUR FUTURE

We asked ourselves what does resiliency look like—what are the key components of a resilient community? What do we want our communities to be? We organized our responses into a vision statement with key outcome areas.

WE IDENTIFIED GAPS

We do not want to duplicate efforts—we want our actions to be focused on outcomes that are necessary for resilience, are not otherwise being addressed, and are coordinated with others to maximize our collective chances of success.

WE FOCUSED ON OUTCOMES

We identified and discussed the tangible results we want, as well as the barriers or challenges to achieving them. Knowing where we want to go allowed us to develop the roadmap to get there.

WE MADE IT PRACTICAL

We assessed each action being mindful of our limited resources and capacity, identifying areas of influence, and understanding there may be a need to adapt as decisions are made by others along the way.

WE STRATEGIZED

Once the outcomes and general paths were identified, we refined the actions and sequencing of steps. We recognize there is strength in numbers, and that we need to collaborate and strengthen our relationships with tribal co-managers and others with common interests.

IMPLEMENTING the Roadmap

The following objectives and high-level actions are key to achieving desired outcomes and, ultimately, the communities' vision. The intent is for these actions to be accomplished by the proposed Coastal Communities Coalition, but may also be coordinated through organizations, fishing associations, or individual community members and partner advocates.

A **Healthy Ocean** must continue to provide economically viable fisheries and support activities that preserve our culture

We want to ensure our ocean remains healthy in the near-term and for future generations. We understand the demand for renewable energy sources, but offshore energy development must not be allowed at the cost of healthy ocean ecosystems, fisheries, and communities. It must be done responsibly with adequate stakeholder involvement and only after environmental impacts are better understood so they can be avoided or diminished. While lawmakers continue to explore mitigation options for offshore energy development, the potential impacts to the environment and fisheries need to be assessed in advance. Avoidance, not compensation, is our preferred option.

OBJECTIVES AND ACTIONS

◆ **Advocate for Meaningful Community Engagement in Offshore Energy Development Process**

- ◇ Coordinate and communicate with tribal partners on activities and opportunities to support common interests to protect fisheries and communities
- ◇ Reach out to affected stakeholders and encourage their engagement in the public process
- ◇ Communicate environmental and economic impacts to decision-makers through multiple channels



◆ **Understand Environmental Effects, Including Cumulative Effects from Multiple Developments**

- ◇ Ensure agencies establish an environmental baseline for proposed lease sites, maintain federal and state marine spatial planning databases, and fill data gaps
- ◇ Advocate for a comprehensive environmental impact statement and analysis of cumulative impacts prior to leasing. Use the state's Marine Spatial Plan, Ocean Resources Management Act, and other enforceable policies to guide potential projects and assess compatibility with fisheries and other ocean uses
- ◇ Research effects of offshore energy on the marine environment in other areas

◆ **Avoid Loss of Access to Fishing Grounds Now and For the Future**

- ◇ Communicate to decision makers that our fisheries, communities, livelihoods, and our futures are not for sale
- ◇ If loss of access to fishing grounds cannot be avoided, then advocate for appropriate and meaningful mitigation measures
- ◇ Identify and quantify impacts to fisheries and other resources, estimate fishery revenue loss (beyond ex-vessel revenue), and clarify overall economic impacts to communities

Economically Viable Fisheries are the foundation of our communities—they are part of our heritage and our identity

Washington’s coastal Dungeness crab fishery has operated in areas with humpback whales and other marine life since the 1940s. State and tribal crab fisheries are sustainably co-managed with harvest sharing agreements and are well-coordinated with other West Coast states. Climate change is affecting offshore ocean conditions (e.g., producing more intense, frequent, and persistent marine heatwaves), altering where humpback whales are feeding in the presence of warm water and increasing the chance of an encounter with crab gear as they forage closer to shore. Marine heatwaves also increase the likelihood of harmful algal blooms, which produce toxins that affect shellfish, seabirds, and other wildlife, and can be harmful to humans. Last season (2021-2022) the coastal Dungeness crab fishery generated more than \$88 million in revenue to state harvesters, and ensuring the viability of this fishery is vital to the state’s economy as a whole, as well as the economic wellbeing of our communities.



OBJECTIVES AND ACTIONS

- ◆ **Maximize Long-Term Fishery Sustainability**
 - ◇ Help the Washington Department of Fish and Wildlife (WDFW) secure and maintain an incidental take permit for the Dungeness crab fishery
 - ◇ Promote tools to improve fishery and individual accountability (e.g., line marking, electronic monitoring) while providing flexibility for individual choice or innovation, and pursue funding options to defray costs to fishers for new management measures
 - ◇ Strengthen economic return by maximizing access to fishing grounds and harvestable resources, and considering changes to fishery structure (e.g., permit stacking, buyback program) to achieve long-term objectives
 - ◇ Improve adaptability by enhancing options to respond to biotoxin events, securing resources to eradicate competing invasive species, and using electronic monitoring to capture and monitor the fishery footprint

- ◆ **Strengthen Co-Management Outcomes**
 - ◇ Secure and maintain the trust of tribal co-managers with accurate catch accounting and timely reporting of fishery data, and ensuring the integrity of harvest sharing agreements
 - ◇ Collect and use data through electronic monitoring to provide evidence of fishery location and effort

- ◆ **Assess and Minimize Protected Species Impacts**
 - ◇ Understand the current population status of protected species, assess whether fishery impacts need to be reduced, and consider the trade-offs of proposed alternatives relative to effects on fishery and communities
 - ◇ Know where the protected species are in relation to current fishing locations (e.g., by using an app to detect and monitor locations of tagged protected species)



IMPLEMENTING the Roadmap *continued*

A **Vibrant Infrastructure** is necessary to ensure our communities are safe places to live, work, and enjoy, and where businesses can thrive

More must be done to ensure the safety of these communities and the wellbeing of our residents and visitors—right now and for the future. Large waves overtop the seawall in Westport, flooding the town and damaging property, and occur more frequently with climate change. These communities are also highly vulnerable to saltwater intrusion resulting from sea level rise. Current infrastructure needs include repair and maintenance of the seawall and offshore jetties, protection of community wells and installation of desalination plants, improved access to the ports and marinas, and development of working waterfronts to support our fisheries and communities.

OBJECTIVES AND ACTIONS

◆ ***Protect Ports and Communities from Sea Level Rise***

Recognizing the established authorities of landowners, municipalities, and local jurisdictions we seek to:

- ◇ Support and advocate for ongoing and future infrastructure projects that are critical to the current and future waterfront dependent fisheries and communities in our region
- ◇ Support decision-makers and lead organizations on the development and implementation of a cohesive community vision for future development with a transparent public process to scope needs, ideas, and recommendations

◆ ***Improve and Maintain Access to Port, Marina, and Offshore Marine Areas***

- ◇ Similar actions as those needed for sea level rise (above)
- ◇ Scope of assessment will include identifying the most vulnerable areas and structures and the state of the infrastructure



Successful Implementation of the roadmap requires collaboration, partnerships, and coordination

Community members have created a vision and roadmap to strengthen our resilience to climate change, the first step of many to come as we build a more resilient community. Achieving the vision cannot be done in isolation. We are seeking to form a Coastal Communities Coalition to engage with partners to help ensure the roadmap remains relevant, responsive to changing climate and ocean conditions, and on track to achieve desired outcomes. Collaborating with tribes, and federal, state, and local government agencies, and stakeholders is critical to success, and having a structured organization in place will help facilitate those discussions and build those relationships.

OBJECTIVE AND ACTIONS

◆ **Form Coastal Communities Coalition**

- ◇ Identify scope and purpose (filling gaps, avoiding duplication), and roles and responsibilities
- ◇ Research organizational structures and develop and establish the coalition (e.g., create and file articles of formation, develop bylaws, identify meeting structure)
- ◇ Seek startup funding and identify ongoing self-funding mechanisms and potential sources
- ◇ Reach out to tribal, federal, and state leadership and seek opportunities for collaboration and coordination to further progress on roadmap implementation
- ◇ Implement roadmap to address priority concerns

Additional Needs and Concerns

The following objectives are also high priorities for achieving the communities' vision and outcomes. The intent is for the proposed Coastal Communities Coalition to identify and develop the specific actions needed, which would benefit from coordination and collaboration with tribes, other organizations, and partners.

HEALTHY OCEAN

Ensure ongoing fishery and ecosystem science efforts critical for management (e.g., stock assessments, surveys) are maintained while also supporting investments in new science

ECONOMICALLY VIABLE FISHERIES

Better understand, address, and prepare for:

- Interannual variability and uncertainty in salmon abundance, distribution, and timing
- How warm water temperatures are increasing salmon mortalities in freshwater and reducing ocean survivability
- Distribution shifts of target stocks (e.g., albacore tuna)
- Increases in frequency and duration of harmful algal blooms and resulting effects
- Long-term effects of ocean acidification on shellfish

VIBRANT INFRASTRUCTURE

Priority needs include:

- Maintenance of highways, roads, and bridges, which are tsunami evacuation routes, facilitate commerce, and provide transportation for residents and visitors
- Ready access to medical facilities, utilities (e.g., reliable internet and cell service), and services (e.g., markets, gas stations, restaurants, lodging)



Community Adaptive Capacity Assessment

The following is an independent assessment of the communities' ability to adapt. This two-part technical addendum shares data from recent studies assessing social-ecological vulnerability and self-perceived vulnerability to climate change on the West Coast, as well as a cognitive map co-developed with community members that highlights how the aspects of resilience contained within the community vision are influenced by other components of the local, coastal socioecological system.

ADAPTIVE CAPACITY AS A COMPONENT OF COMMUNITY RESILIENCE

Fishing has long been a central part of the culture and economy of the U.S. Pacific Coast. Indigenous peoples have fished and gathered shellfish since time immemorial, and commercial and recreational fishing has generated nearly \$35 billion annually in recent years. In addition to coastal communities facing sea-level rise, and increasingly frequent and severe storms (IPCC, 2021), the livelihoods, culture, and food security derived from fishing are at risk as climate-driven changes are already apparent in the California Current (McClure et al., 2023).

How fishing communities on the West Coast are vulnerable to climate change varies (Koehn et al., 2022), and is a function of their exposure, sensitivity, and adaptive capacity to climate change. Exposure is the climate impacts experienced by a community (i.e., sea level rise or ocean warming), sensitivity is the likelihood of being affected by those changes, and adaptive capacity is the ability to moderate, cope, or respond to the impacts (Adger, 2006). This section focuses on the adaptive capacity and resilience, a different but closely related concept which the IPCC defines as, "The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions" (IPCC, 2012).



“If there’s no fish, there will be no town.”
—Salmon and crab fisher, Ilwaco, WA

The adaptive capacity of a community is the product of many factors including resources, social networks, and the motivation to act. Often adaptive capacity is measured by a number of socioeconomic characteristics like income, education, and age (Davies et al., 2018; Koehn et al., 2022), and though more challenging to measure, risk perceptions and a sense of agency have also been shown to affect the capacity to adapt (Barnes et al., 2020). Specifically in fisheries, characteristics that have been shown to influence adaptive capacity include diversification (Cline et al., 2017; Young et al., 2019), and higher levels of mobility and flexibility regarding where to fish (Fisher et al., 2021; Jardine et al., 2020). To take a balanced approach of quantitative and community-defined measures of adaptive capacity in Ilwaco and Westport, this assessment includes relevant data from recent work considering social-ecological vulnerability along the West Coast (Koehn et al., 2022), perceptions of vulnerability (Nelson et al., 2022), and a community cognitive map highlighting resilience within the coastal community system.

In 2022, Koehn et al. conducted a vulnerability assessment of West Coast fishing communities, investigating how climate impacts on commercially important species and community characteristics interact to determine vulnerability to climate change. They measured adaptive capacity using 15 metrics across 4 themes using data from the 2018 Center for Disease Control Social Vulnerability Index, an index created from data from the American Community Survey.

Figure 1 shows the 26 communities from Washington included in the study ranked from lowest to highest adaptive capacity; Westport has the 9th lowest, while Ilwaco is 11th. Though close in overall adaptive capacity, they differ slightly across themes. Westport’s adaptive capacity is more influenced by socioeconomic and housing conditions, and Ilwaco’s lowest score is in the household composition and disability status theme.

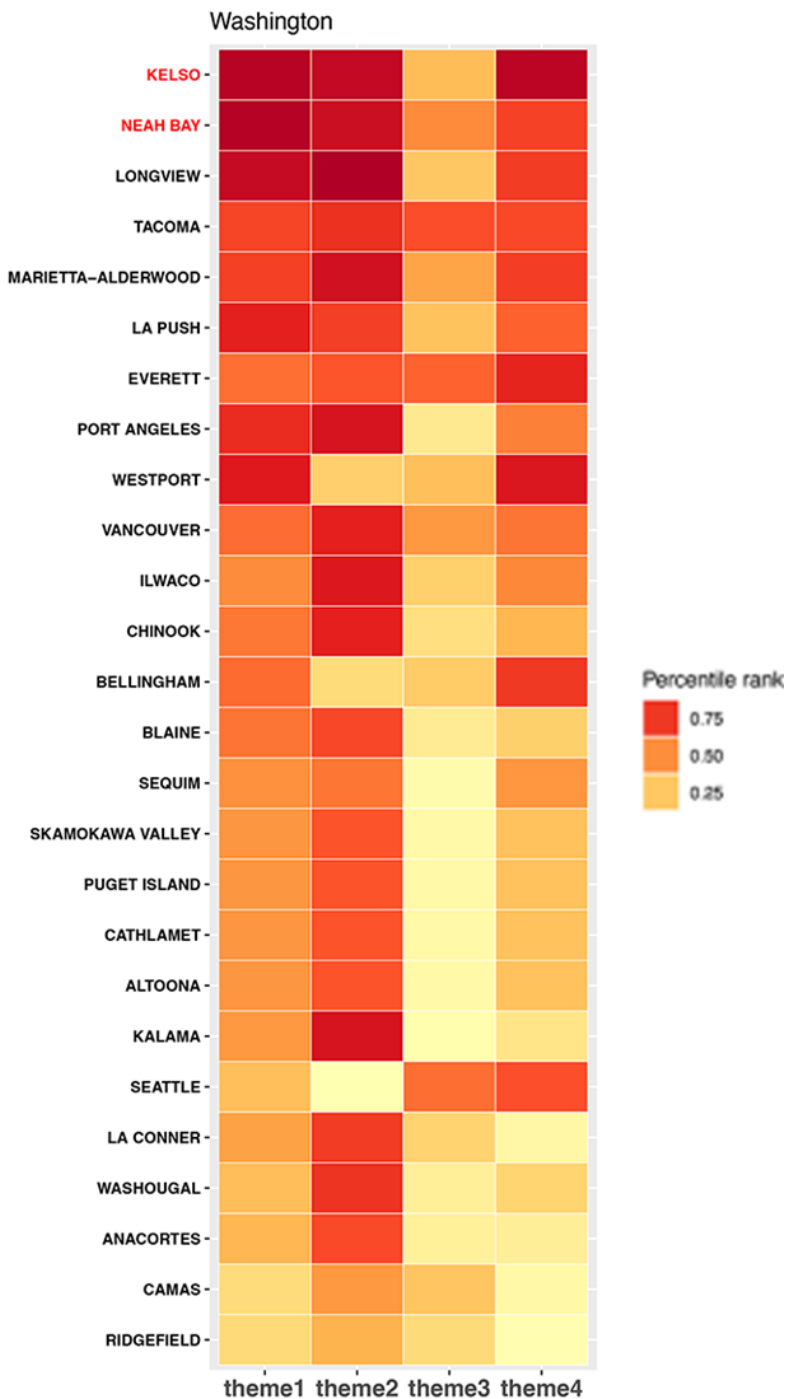
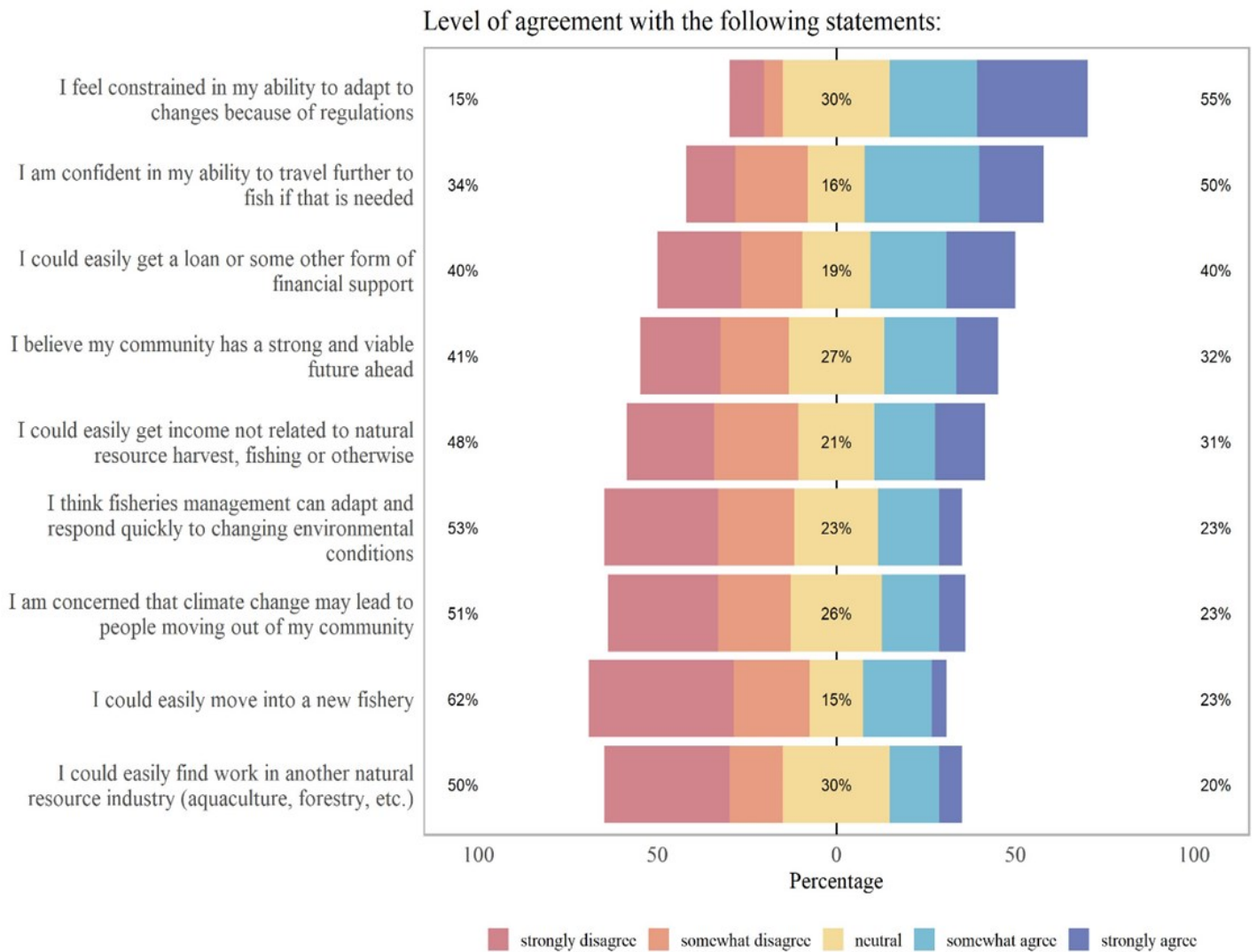


Figure 1. Fishing communities from Washington ranked from the lowest to highest adaptive capacity based upon their scores from the CDC Social Vulnerability Index. The themes are: 1. Socioeconomic, 2. Household Composition and Disability Status, 3. Minority Status and Language, and 4. Housing and Transportation. Figure from Koehn et al., 2022.

While indices like the CDC Social Vulnerability Index are valuable for large scale comparisons and identifying at-risk locations, the reliance on census data can miss community-level nuances that influence vulnerability and fail to capture other important aspects such as the perceived ability to adapt. In parallel with the assessment conducted by Koehn et al. (2022), a survey was conducted of fishers on the West Coast to understand perceptions of climate change and vulnerability. There were 162 responses, of which 95 were from Washington.

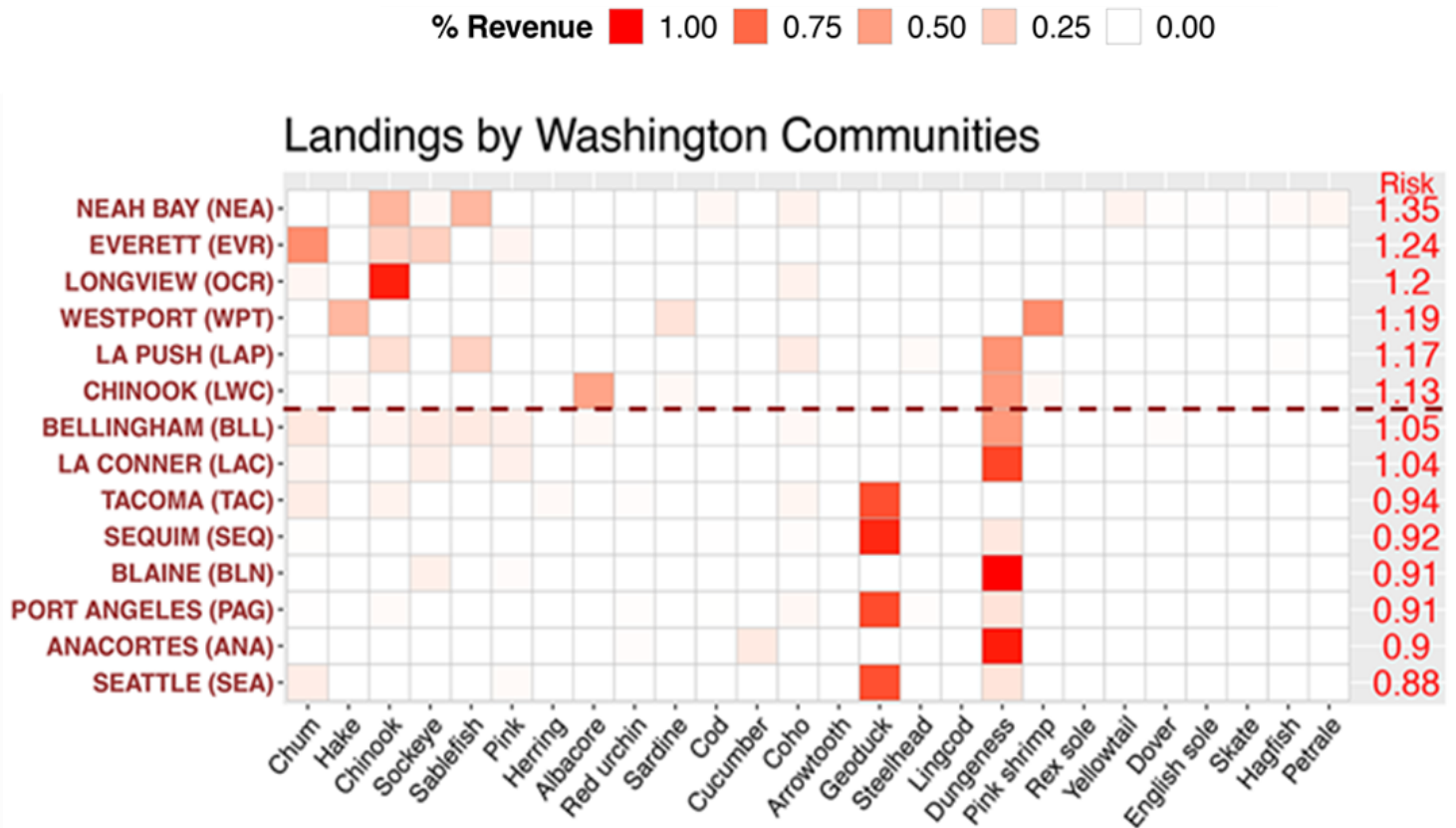
In one portion of the survey, respondents responded to a series of statements describing adaptive actions or constraints associated with fishing, ranking them from strongly agree to strongly disagree (Figure 2). Overall, fishers were not particularly optimistic about their ability to respond, with only about one-third agreeing that their community has a strong future ahead. Nor did they have a favorable view of the ability of fisheries management to adapt, with only roughly a quarter agreeing that fisheries management will be able to quickly adapt to changing environmental conditions. These sentiments, especially those related to the feelings of being constrained and the ability of fisheries management to adapt, underscore the needs highlighted earlier to maximize long-term fishery sustainability.

Figure 2. Responses from fishers in Washington to statements concerning the ability to adapt (n = 95). Survey conducted by Nelson et al. (2022).



Additional information regarding how these Washington communities compare to others is described in Figure 3 and Table 1. Figure 3 shows the major fishery landings by community with the transparency of the red boxes based on percent revenue for that species/catch group and darker red indicating greater percent revenue. The percent revenue is relative to the total revenue for that community, for the species landed in that community, and for the species that were in the top 90% of landings for that community. Communities are ordered from highest risk to lowest. Risk was determined using community exposure, a measure of the vulnerability of fish species a community fishes, combined with community reliance and fishing as determined by NOAA's social indicators. For communities with the same landings composition (i.e., part of the same port group), a random community was picked and plotted, to specifically show landings compositions that have high risk. Though Ilwaco is not in the list, it is combined in the same port group with Chinook. Species on the left have the highest ecological risk, while those on the right have the lowest. Communities above the red dotted line are in the top 10 percentile for risk; Ilwaco and Westport both fall into that category. Overall, there are different combinations of species landings that lead to high community risk.

Figure 3. Major fishery landings for Washington communities, ranked from highest to lowest risk for adaptive capacity. (Note: Ilwaco is combined with the Chinook port group.)



The full results of the scores for sensitivity, exposure, adaptive capacity, risk, and vulnerability are described in Table 1. The rankings reflect where Westport and Ilwaco are relative to communities up and down the West Coast. In summary, Westport and Ilwaco have relatively low adaptability, are at higher risk, and are among the most vulnerable of fishing communities.

Table 1. Adaptive capacity scores for Westport and Ilwaco and their respective rankings among other West Coast communities relative to adaptability, risk, and vulnerability.

Community	Score					West Coast Ranking		
	Sensitivity	Exposure	Adaptive Capacity	Risk	Vulnerability	Adaptability	Risk	Vulnerability
Westport, WA	0.992	0.651	0.674	1.187	1.365	85	12	13
Ilwaco, WA	0.981	0.57	0.566	1.134	1.268	113	14	24



COMMUNITY MENTAL MAP

Given the rapid pace with which climate and ocean conditions are changing and the uncertainty of the environmental effects on these communities and fisheries, effective adaptation will require a continuous refinement of strategies, outcomes, and actions. The key outcome areas outlined earlier in the roadmap are all interconnected and exist within a system where humans and the environment influence each other. In a complex system such as this, developing a cognitive map of the system can be a useful tool to visualize connections between components of the system, and to use as a reference to consider how refining or evolving adaptive strategies may eventually affect components of community wellbeing.

Cognitive mapping entails working with people, individually or through a workshop process, to collect a representation of their perspective and understanding of a system. Cognitive maps have connections between nodes that have directionality and strength, and they can help with conservation outcomes by facilitating improved communication between stakeholders, incorporating different sources of knowledge into the planning process, improving the incorporation of social aspects into the plan, and enabling shared ownership of the plan (Biggs et al., 2011). Through a series of community meetings and interviews, we developed a cognitive map with the working group to understand specific aspects of the community system that may support or inhibit adaptive capacity and resilience (Figure 4). The mental map is a visual representation of the connections between the resilience components (dark blue circles), which align with the key outcome areas of the community vision, and aspects of wellbeing, challenges facing the community, and strategies that may be employed. Table 2 contains a description of all the components of the map, referred to as nodes, which are color-coded by themes.

The connections are grounded in the knowledge of individuals in the working group and based on their decades of experience within these communities. Over the years, the knowledge and wisdom gained from those experiences has helped them to take actions to promote fisheries conservation, support economically viable and sustainable fisheries, and provide recreational opportunities. This cognitive map provides a visual representation of a component of that knowledge and will hopefully serve as a reference to help the proposed Coastal Communities Coalition with their continuous refinement of strategies, outcomes, and actions by allowing them to consider how new strategies may affect components of the community system.

Figure 4. Group map of aspects that affect community resilience (dark blue circles) as identified in the community vision statement.

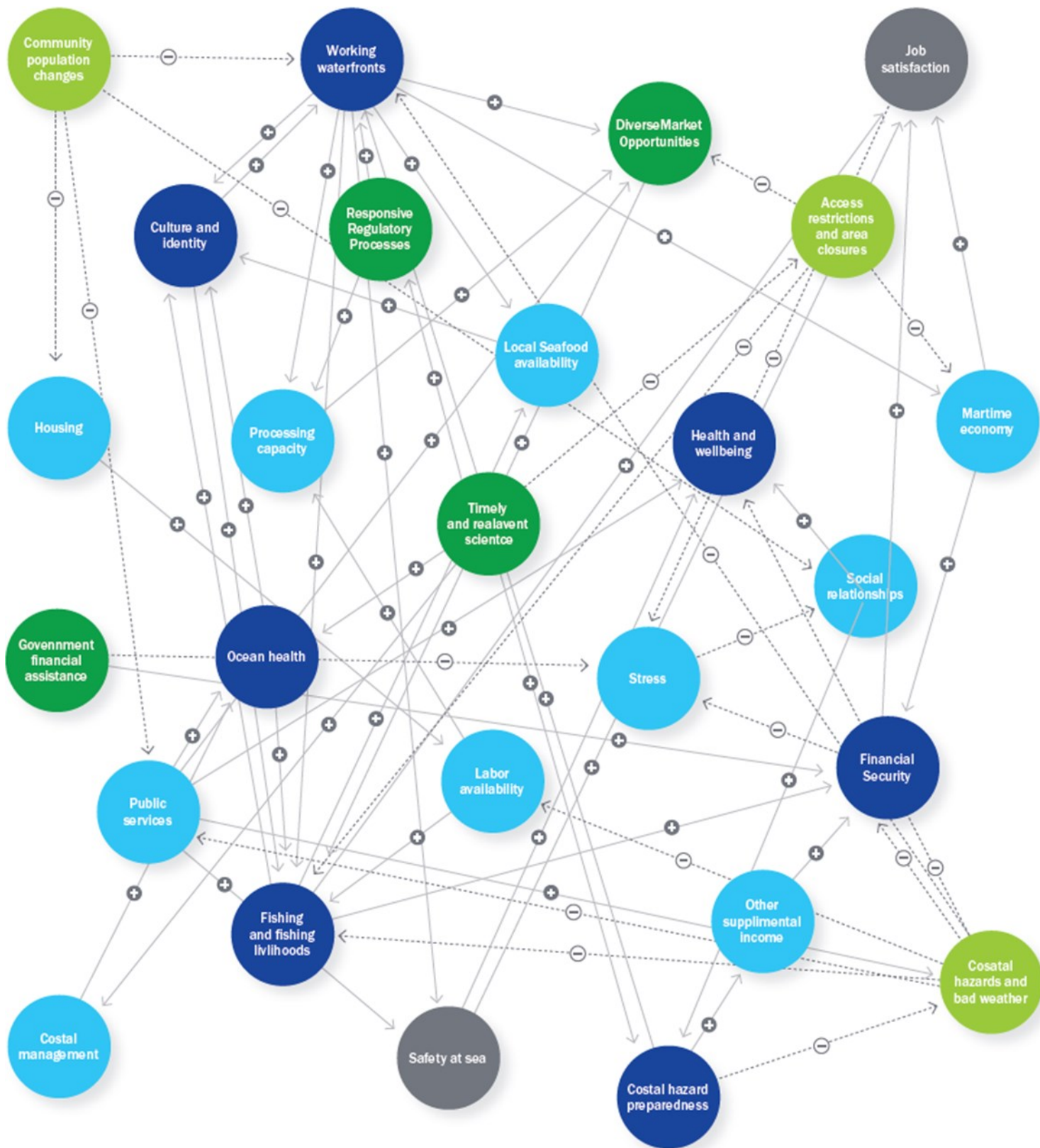
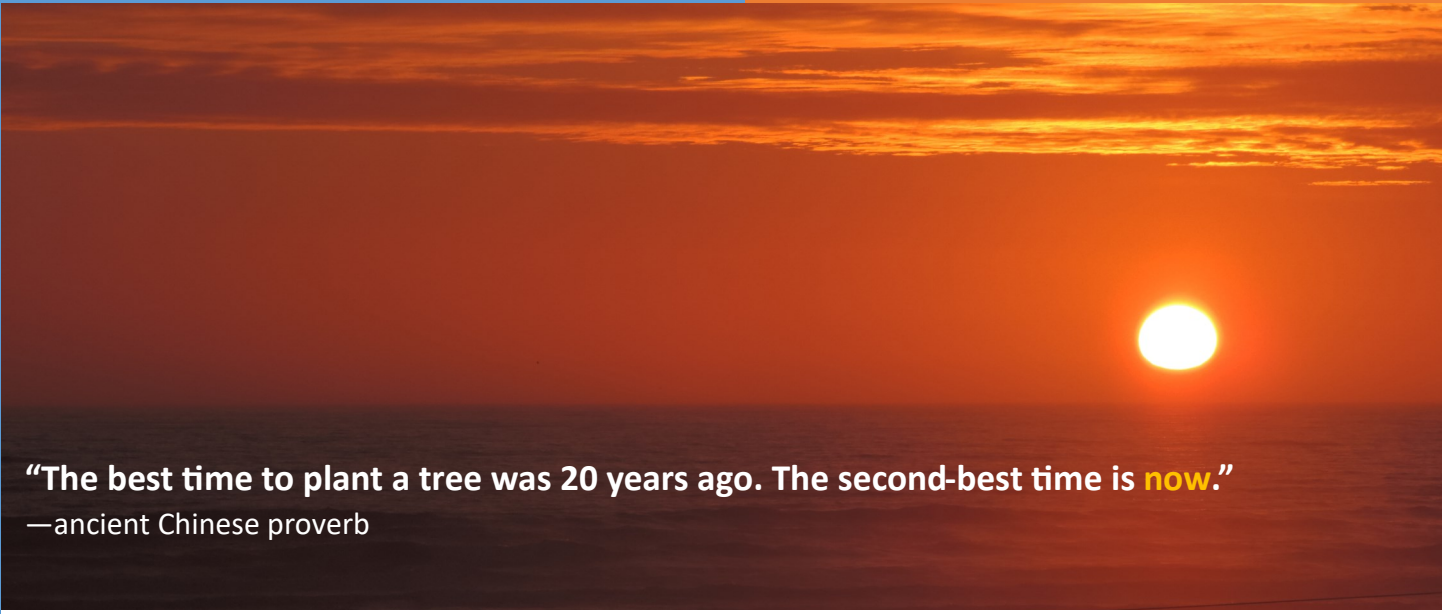


Table 2. Guide to the socioeconomic themes and focal topics (referred to as nodes) used in Figure 4.

THEME	NODE	DESCRIPTION
Resilience	Fishing and fishing livelihoods	The act of fishing and the associated economic and livelihood benefits
	Ocean health	The ocean and coastal habitats are healthy and able to support healthy fish populations and bountiful fisheries
	Health and wellbeing	Physical and emotional health and wellbeing, access to healthcare, and protection from hazards
	Coastal hazard preparedness	Physical infrastructure and plans are in place to protect the community
	Financial security	Predictable and sufficient income
	Culture and identity	Identity as a fisher or resident of a coastal community
	Working waterfronts	Safe, functioning port and navigational infrastructure that supports the community and needs of the fishing and maritime economy. Contributes to the identity of the coastal community
Challenges	Access restrictions or area closures	Seasonal or permanent area closures or restrictions due to offshore wind, rockfish conservation areas, domoic acid related closures, etc.
	Community population changes	Reflects the evolving population as more people move to the coast and work remotely or retire to coastal communities
	Coastal hazards and bad weather	Sea level rise, coastal erosion tsunamis, flooding, and severe storms
Community & Economy	Public services	Non-fishing related government services like unemployment, housing, infrastructure, etc.
	Maritime economy	The maritime economy outside of commercial fishing including shipping, recreational fishing, etc.
	Coastal management	Environmental management and governance over ocean and coastal areas, including nearshore commercial and recreational fisheries, nearshore development, and water quality regulations
	Labor availability	The pool of people available to crew, process, work in the service industry, and fulfill the labor needs in coastal communities
	Housing	Supply of affordable and suitable housing
	Processing capacity	The capacity to process seafood within the community or nearby
	Other supplemental income	Income from outside the maritime sector to supplement fishing or other maritime employment
Strategies	Timely and relevant science	Investments in monitoring and forecasting help improve uncertainty related to openers/closures/general stock status
	Responsive regulatory processes	Permitting and environmental management processes are able to respond more quickly to current and emerging issues
	Diverse market opportunities	Fishers have options for how they sell fish, including building new or strengthen existing pathways for direct-to-consumer sales
	Government financial assistance	Government support in the form of loans, other disaster relief, or financial assistance like unemployment
Wellbeing	Safety at sea	Occupational safety in the maritime sector
	Local seafood availability	Local seafood is available, safe, and affordable
	Social relationships	There is a thriving and connected fishing community within the greater coastal community and the community overall feels connected
	Stress	Stress levels, challenges to emotional or mental health
	Job satisfaction	People feel satisfied with their work

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“The best time to plant a tree was 20 years ago. The second-best time is **now.”**

—ancient Chinese proverb

Community Resilience Plan Team

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Ryan Johnson – Salmon troller; President, Washington Trollers Association

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