SHOALWATER BAY TRIBE

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Shoalwater Bay Indian Tribe

Part III: Climate Resilience Plan

August 2021

Oregon State University

adaptation international

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Acknowledgements
This project would not have been possible without the knowledge, experience, and contributions of the following individuals and groups. In addition to those individuals below, a special thank you goes out to the Tribal Council for supporting this work and to the Bureau of Indian Affairs Tribal Resilience for the funding that made this project possible.

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Suggested Citation
Shoalwater Bay Indian Tribe. 2021. *Part III: Climate Resilience Plan*. Prepared for the Shoalwater Bay Indian Tribe by the Oregon Climate Change Research Institute and Adaptation International.
[Contributors: Pfleeger-Ritzman, L., Judkins, J., Davis, E., Ashley, R., Dalton, M., Petersen, S., Russell, N., Chisholm-Hatfield, S., Ruggiero, P., Basaraba, A., Even, T.]

August 2021

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INTRODUCTION

This is the last of three reports in support of the Shoalwater Bay Indian Tribe's resilience planning efforts. *Part I: Climate Impacts Assessment* includes an assessment and summary of how climate change is projected to impact the Shoalwater Bay Indian Reservation and surrounding area. *Part II: Climate Vulnerability Assessment* assesses the climate exposure, sensitivity, and adaptive capacity of key areas of concern and species in the terrestrial, aquatic, and coastal environments and the health and wellness of the Tribal community. The results of the vulnerability assessment directly informed this report, *Part III: Climate Resilience Plan*, which is intended to provide an initial framework for incorporating resilience into Tribal planning efforts, programs, and policies.

The Shoalwater Bay Indian Tribe is inherently resilient, adapting to the changing climate, environmental conditions, and landscape since time immemorial. The Tribe has historically adjusted and adapted their village location, harvest techniques, forest management, and lifeways to match the constantly changing environment. At present, the rate of change occurring in the climate system is unprecedented, and many species will not be able to keep pace with the increasing average temperatures, more extreme rainfall events, rising sea levels, longer periods of drought, and shifting seasons. Current systems have become less able to shift with the changing landscape. All of these changes have put additional stress on the natural and built systems upon which the Tribe relies, compounding vulnerabilities that further increase risks to a changing climate. Individual species and systems will respond differently to the changing conditions and some species or systems will be more vulnerable to these changes than others.

> "I JUST LOVE THE BEACH AND THE WATER. I LOVE THIS PLACE. I LOVE THE TREES AND THE ANIMALS. IT'S HOME. IF IT WASN'T HERE, THEN IT WOULD BE INSANITY BECAUSE IT IS THAT IMPORTANT." - LYNN CLARK ANDERSON

This Climate Resilience Plan provides a foundation and framework for Shoalwater Bay Tribal staff and the community to prepare for climate change-related risks by building on existing planning efforts and making critical decisions that enhance resilience. Planning for climate change and building resilience includes thinking holistically and strategically about ways to return to certain traditional practices and food sources. These efforts can have multiple benefits and support the spiritual, cultural, and physical health of the community.

The Plan is the next step in the Tribe's proactive approach to reduce the risk of coastal flooding and wildfire, identify ways to address drought impacts, respond to earthquake and tsunami events, and bring Tribal departments and the broader community together to think about near-term and long-term resilience. While the focus of this Plan is on ways to address climate impacts, many of these strategies can also be applied to non-climate hazards, emergencies, and risks. These strategies can also be implemented through ongoing efforts such as the Tribal relocation and upland expansion efforts that, if done with these principles in mind, can reduce risk and enhance local landscapes and create more cultural connections with traditional foods. The Tribe is committed to working with nature and the changing dynamics of the climate system, and this Plan is a guide to focus these efforts on strategies to remain resilient, reinvigorate traditional practices, design actions that enhance physical and cultural health and wellness, and thrive for centuries to come.

FOUNDATIONS OF RESILIENCE

In the context of climate change, being resilient means reducing overall exposure to future climate hazards while simultaneously strengthening the capacity to respond to change. The Tribe is and has always been resilient. Tribes have a reciprocal relationship with nature and the land that are integral to Native identity. They understand the ebb and flow of environmental changes—a foundational component of Traditional Ecological Knowledges (TEK). Native Tribal perspectives are multifaceted, holistic, and encompassing and consider impacts on the land from behaviors that are not rooted in holistic or reciprocal viewpoints. Tribes have been aware of and adapting to changing climate conditions far longer than the term "climate change" has been used in western societies. Westernized terminology cannot encompass the depth and breadth of knowledges and connection Native people have with their environments. Terms such as "climate change", "resilience", and even "TEK" are creations of westernized systems that have evolved out of colonialism.

For the Shoalwater Bay Indian Tribe community, enhancing resilience means, taking a proactive and culturally relevant approach to planning for future changes while also looking for ways to strengthen the community, enhance ties to traditional and cultural practices, and work across sectors to enhance hazard planning. The Tribe is becoming more resilient by improving the ability of the community to rebound from, positively adapt to, and thrive amidst natural disasters and climate hazards, which pose significant challenges. Further, this work focuses on maintaining and improving quality of life and the integrity of cultural systems for generations to come.

RESILIENCE

A CAPABILITY TO ANTICIPATE, PREPARE FOR, RESPOND TO, WITHSTAND, AND RECOVER FROM SIGNIFICANT MULTI-HAZARD THREATS WITH MINIMUM INTERRUPTION AND DAMAGE TO SOCIAL, CULTURAL, AND SPIRITUAL WELL-BEING, THE ECONOMY, AND THE ENVIRONMENT.

The Rockefeller Foundation, through its *100 Resilient Cities* initiative (ARUP 2014), identified a number of characteristics of a resilient system.

- **Flexibility -** Systems can change and evolve over time. They may be decentralized, built off or include multiple ways of knowing, and able to incorporate or adjust as information and knowledge changes.
- **Redundant -** Systems have additional capacity to accommodate extremes or disruptions. Redundancies are intentional, cost-effective, and customized to the natural or built system.
- **Robust -** Systems can withstand impacts of climate associated hazards without significant disruptions. They are fortified and designed to limit cascading impacts in the event of a failure.
- **Integrated -** Interconnected systems provide multiple benefits, are designed to ensure that investments are mutually supportive for a variety of outcomes and operate effectively across a variety of scales.

- **Inclusive -** Systems are designed to include and are built based on holistic engagement from all segments of the community, especially those at the forefront of changing climate conditions. Inclusivity contributes to a shared sense of ownership, community, and vision.
- **Reflective/Learning -** These systems continually incorporate new information, are modified, and evolve based on changing conditions and information. They do not attempt to remain static but learn from the past and future projections and are constantly adjusting to be better prepared for the future.
- **Resourceful -** Systems that can rely on the people and institutions who run them to rapidly find different and creative solutions to emerging threats and problems, especially when these systems are under stress.

Though applicable, these characteristics may not represent a Tribal community's understanding of resilience. Indigenous Knowledges and relationship with place are particularly important to community resilience as it provides a foundation for belief systems, identity, and knowledge exchange. These relationships and understandings help determine how Tribal communities experience, understand, and respond to change (Ford et al. 2020). Indigenous resilience may include protecting, preserving, and enhancing: Tribal resources; cultural and Traditional Knowledges and practices; identity; and sovereignty in the face of changing climate (TCAGWT 2018).

FOCUS AREAS AND RESILIENCE STRATEGIES

After identifying the key species and issues of concern and determining the relative vulnerabilities of each to climate and environmental change (*Part II: Climate Vulnerability Assessment*), the Tribe selected three main focus areas for building resilience: **1) Traditional Foods, Culture, and Wellness; 2) Healthy Lands and Forests;** and **3) Infrastructure**. These focus areas encompass current Tribal planning priorities as well as ways to improve resilience in the future. Given the three focus areas, the project team identified relevant resilience strategies, which were derived from vulnerability assessment results (*Part II: Climate Vulnerability Assessment*); discussions with Tribal staff and community members; and local, regional, state, and Tribal management and resilience plans.

The resilience strategies in this report create the foundation for the development of a larger set of specific resilience actions the Tribe could take to address vulnerabilities and support broader resilience work happening on the Reservation. The Tribe can build on this foundation by creating specific, implementable actions that achieve their goals related to traditional foods, culture, and wellness, healthy lands and forests, and infrastructure resilience.

The initial set of resilience strategies was developed by Tribal staff, Adaptation International, and Oregon State University. Tribal staff from various departments participated in refining these strategies through a series of two meetings in June 2021. The first meeting focused on Infrastructure and the second on both Traditional Foods, Culture, and Wellness and Healthy Lands and Forests. Through these meetings, staff helped refine the initial resilience strategies to match current efforts, capacity, and priorities of the Tribe and paid particular attention to the intersections and synergies with emergency response and planning, hazard mitigation, climate adaptation, and wellness. Each strategy was rated either high, medium, or low priority. These rankings were intended to guide where and how the Tribe may focus its resources during future resilience planning projects. At the beginning of each section there is a summary table listing each resilience strategy in order of priority. Strategies are then described in more detail, including the resilience value and example actions or potential areas where the Tribe can focus future efforts.

Traditional Foods, Culture, and Wellness

"WHEN YOU'RE SUBSISTENCE HUNTING AND WORRYING ABOUT SURVIVAL, IT'S ABOUT INCREASING YOUR CHANCES RATHER THAN DECREASING THEM. I THINK THE BIG DIFFERENCE BETWEEN THE WESTERN WORLD AND US IS WE'RE NOT OUT THERE FOR SPORT, WE'RE OUT THERE TO SURVIVE STILL."

"SALMON'S THE CLASSIC EXAMPLE, BUT SO ARE THE BOTTOM FISH AND THE SHELLFISH AND CRAB… I MEAN, WE PRETTY MUCH HAVE A WORD IN OUR LANGUAGE FOR ALMOST EVERYTHING IN THE BAY AND ALMOST ALL OF IT IS FOOD RELATED, IT'S OUR LIFELINE." –EARL DAVIS

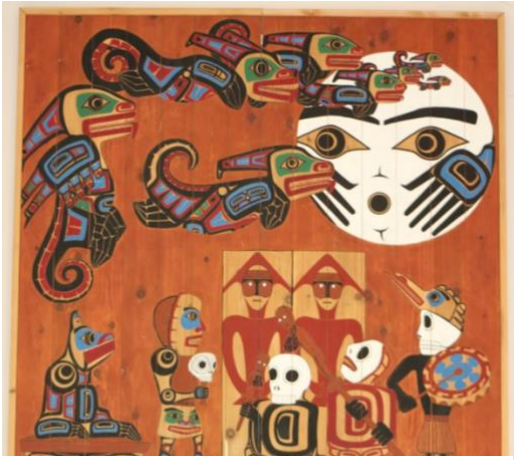

FIGURE 1 ARTWORK BY TOM ANDERSON, TRIBAL ELDER. (PHOTO CREDIT SAMANTHA CHISHOLM-HATFIELD)

The vitality of the Tribe, as well as the physical and mental health of individual Tribal members, is inextricably tied to traditional foods and cultural practices that have served the Tribe for millennia. These resources have helped sustain generations of Tribal members and support community relationships built on sharing of Traditional Knowledges and resources. However, climate change is affecting access and availability of critical cultural resources. In recent times, the Tribe has moved away from certain traditional harvesting practices and incorporated more modern practices and processed foods into their diets, which has caused a noticeable decline in the overall health of Tribal members. Some of these practices have also left the landscape and natural systems more vulnerable to changing climate conditions.

There are certain populations within the Tribal community that are more vulnerable to climate change and its impacts on traditional food and cultural practices. These populations include Tribal elders, youth, and those with any preexisting health conditions (USGCRP 2016). As the Tribe continues resilience planning, it is essential that additional considerations are made to account for the disproportionate vulnerability of these groups to changing environmental and social conditions.

Access to many coastal resources has become complicated by a mix of land ownership and the dynamic nature of beaches. Beach access will continue to be an issue as storm patterns change and sea-level rise increase erosion and exposure to coastal flooding. Coastal resource access is just one example of how traditional foods, culture, and wellness are interconnected and why it is essential to consider them holistically in future planning efforts. Planning now for ways to ensure long-term continued access to coastal areas and resources can provide multiple benefits for the Tribe, including continued traditional harvesting practices, returning to traditional foods and diet, and sharing intergenerational knowledge.

The Tribe has begun to address the need to return to traditional foods and harvesting practices by taking advantage of their food sovereign status and creating and maintaining a Community Garden. The garden was initiated in 2019, is run by a Master Gardener contractor, and is funded with a mix of grants and Tribal funds overseen by the Shoalwater Bay Natural Resources Department. Currently, the garden provides the Tribal community with fresh vegetables and hopes to incorporate strategically planted fields of traditional foods such as camas root, nettles, and fiddleheads. A fruit orchard, native plant area, and chicken enterprise will soon be able to provide even more to food for elders, Tribal members, and the

Tribal kitchen. There are hopes that the expansion and the success of the garden will also generate revenue from organic composting program to sustain the garden.

The following resilience strategies provide a foundation for the Tribe reconnect with and enhance traditional food and harvesting practices in ways that maintain the continued health and wellness of community members under changing conditions. By melding current and longstanding Traditional Ecological Knowledges management practices with western science techniques, Tribal departments can ensure resilience efforts are both successful and culturally sound.

	STRATEGY	PRIORITY
T-1	Maintain current habitat, restore historical habitat, promote future habitat, and focus efforts on increasing resilience of these essential landscapes and surrounding areas.	HIGH
T-2	Continue to explore ways to ensure continued access by Tribal members to traditional resources and harvest areas.	HIGH
T-3	Integrate Traditional Ecological Knowledge (TEK) and Western knowledges to manage traditional resources.	HIGH
T-4	Integrate contemporary climate change projections and information into management of all traditionally-harvested species.	HIGH
T-5	Enhance, update, and develop new monitoring programs for traditionally-harvested species and ecosystems.	HIGH
T-6	Support increased funding to monitor changes in aquatic food web dynamics.	HIGH
T-7	Encourage planting of traditional and native plant species over non-native species, where appropriate, on Tribal lands.	HIGH
T-8	Expand, update, and enhance efforts to limit the impact of invasive species on traditional food resources and ecosystems.	HIGH
T-9	Initiate an educational program about climate change and the public health and wellness impacts it may bring and ensure that traditional foods and harvest practices are central to this program.	HIGH
T10	Support efforts to reduce existing non-climate stressors on traditionally-harvested species.	MEDIUM
T-11	Increase involvement and communication with regional and federal agency management processes to support salmon restoration and traditional use of the species.	MEDIUM
T-12	Work to support and enhance the return to traditional foods by reincorporating fire and traditional practices to manage landscapes.	MEDIUM

FIGURE 2 TRADITIONAL FOODS, CULTURE, AND WELLNESS RESILIENCE STRATEGIES LISTED IN ORDER OF PRIORITY. EACH STRATEGY IS DESCRIBED IN MORE DETAIL BELOW AND GIVEN A CODE (E.G., T-1) THAT CAN BE USED TO REFERENCE THE MORE DETAILED INFORMATION.

T-1. MAINTAIN CURRENT HABITAT, RESTORE HISTORICAL HABITAT, PROMOTE FUTURE HABITAT, AND FOCUS EFFORTS ON INCREASING RESILIENCE OF THESE ESSENTIAL LANDSCAPES AND SURROUNDING AREAS.

The continued ability to harvest traditional resources, especially in coastal habitats, is important for cultural and health reasons. The traditional harvest of resources involves much more than the act of harvesting and can incorporate aspects of cultural heritage and storytelling that has been around for generations. The first step in preserving these resources is to protect and restore current habitat throughout Tribal lands and throughout the region.

T-2. CONTINUE TO EXPLORE WAYS TO ENSURE CONTINUED ACCESS BY TRIBAL MEMBERS TO TRADITIONAL RESOURCES AND HARVEST AREAS.

Food is medicine is a common phrase used in the work of the Tribe. Continued access to traditionally-harvested resources by Tribal members, especially in coastal habitats, is important for cultural and health reasons. Traditional harvesting can incorporate multi-tiered aspects of cultural heritage that have been around for generations. The practice is an important aspect of cultural vitality and maintaining longstanding Traditional Ecological Knowledges. Traditional foods are the healthiest form of sustenance for Tribal members and are increasingly being replaced by processed foods causing illness as diets shift away from traditional food sources. Beach access to traditional harvest areas is necessary for Tribal members to continue to harvest traditional food resources along traditional harvest areas. While there will be limits to ensuring access to all areas due to continued shoreline evolution, working to provide safe access (public walkways, stairs, etc.) to areas that historically had, still have, or will have traditional resources is vital. There may be areas that were used historically but are not on Tribal land or lack current access that could be considered and discussed. These include traditional homeland areas that are not included in the Usual and Accustomed area access allowance.

T-3. INTEGRATE TRADITIONAL ECOLOGICAL KNOWLEDGES AND WESTERN KNOWLEDGES TO MANAGE TRADITIONAL RESOURCES.

Ultimately, the goal of sustainable management of traditional resources is to support the physical and cultural health and wellness of the Tribe and Tribal members. Both Traditional Ecological Knowledges and western knowledges can be used to inform management of traditional food resources. Integrating of multiple ways of knowing into long-term, climate-smart, and holistic management of resources as well as their ecosystems and community health and wellness, can increase resilience.

T-4. INTEGRATE CONTEMPORARY CLIMATE CHANGE PROJECTIONS AND INFORMATION INTO MANAGEMENT OF ALL TRADITIONALLY-HARVESTED SPECIES.

Changing climate conditions can affect the vitality and availability of traditionally harvest species. These changes can impact the effectiveness of management practices and health and vitality of traditional use areas. The Tribe can enhance the resilience of these areas and resources by not just managing ecosystems for the conditions today, but for the conditions of tomorrow. Climate science is constantly evolving, and new information can be evaluated and potentially incorporated into management plans and practices to assist and support existing Traditional Ecological Knowledges and management and sustainability. Integrating contemporary climate change projections and information can be applied to resilient shellfish hatchery planning, salmon management efforts, and other relevant resources and species.

T-5. ENHANCE, UPDATE, AND DEVELOP NEW MONITORING PROGRAMS FOR TRADITIONALLY-HARVESTED SPECIES AND ECOSYSTEMS.

Using a combination of Traditional Ecological Knowledges (TEK) and western science techniques to develop and implement a multi-faceted monitoring program can help assess the current health of ecosystems that are critical for traditional food and resource use, while improving the understanding of how these species and systems are responding to climate change. This may include: tracking the location, distribution, and movement of invasive species; surveying the of species to determine baseline conditions and manage distribution shifts; and monitoring population size and distribution of select plant and animal species. This type of monitoring can be multi-generational, incorporate longstanding TEK, and provide opportunities to get the younger generations interacting with the local resources.

T-6. SUPPORT INCREASED FUNDING TO MONITOR CHANGES IN AQUATIC FOOD WEB DYNAMICS.

Due to past and projected changes to aquatic systems (freshwater and marine), establishing a baseline of conditions and monitoring changes is essential, and will help characterize the connections between environmental changes, aquatic species availability, resource health, and human health. For example, Tribal members' ability to harvest shellfish species using traditional methods and sell species commercially is affected by the presence of harmful algal blooms (HABs) that make shellfish consumption dangerous. Expanding collaborations with the State of Washington, jurisdictions, and other Tribes to monitor HABs, monitor local species populations, increase shellfish testing, and expand education and awareness efforts, will protect the physical and cultural health and wellness of Tribal members.

T-7. ENCOURAGE PLANTING OF TRADITIONAL AND NATIVE PLANT SPECIES OVER NON-NATIVE SPECIES, WHERE APPROPRIATE, ON TRIBAL LANDS.

Traditional and native species provide critical cultural connections to both the landscape and important cultural traditions. They also provide opportunities for intergenerational knowledge sharing. While not all native species are guaranteed to thrive in a climate-altered future, prioritizing their planting and management in appropriate locations will help ensure that these resources are available for many generations. This can be prioritized or re-established during the Relocation efforts as well as in the context of the Community Garden.

T-8. EXPAND, UPDATE, AND ENHANCE EFFORTS TO LIMIT THE IMPACT OF INVASIVE SPECIES ON TRADITIONAL FOOD RESOURCES AND ECOSYSTEMS.

Limiting competition by removing invasive species and reducing barriers for native species population growth can help fish, shellfish, nearshore habitat, and forest ecosystems better withstand extreme weather and changing climate conditions. Removing invasive species can also encourage traditional native plant growth and provide opportunities for intergenerational knowledge exchange. Careful selection of actions to eradicate or limit invasive species can also ensure the health of ecosystems and wellness of Tribal members who utilize them.

T-9. INITIATE AN EDUCATIONAL PROGRAM ABOUT CLIMATE CHANGE AND THE PUBLIC HEALTH AND WELLNESS IMPACTS IT MAY BRING AND ENSURE THAT TRADITIONAL FOODS AND HARVEST PRACTICES ARE CENTRAL TO THIS PROGRAM.

Many adverse and climate-driven health impacts are preventable, especially with education and preparation. Educating Tribal members on the potential impacts of climate change on human health and wellness can help reduce adverse health impacts. The Community Garden provides a critical service to the Tribe by helping to incorporate traditional foods into the diets of Tribal members and is a powerful tool for educating the community on the benefits of traditional foods, especially in a changing climate. It also provides wellness benefits for mental, spiritual, and cultural health that supports not only individuals, but the community as a whole.

T-10. SUPPORT EFFORTS TO REDUCE EXISTING NON-CLIMATE STRESSORS ON TRADITIONALLY-HARVESTED SPECIES.

A key step in improving climate resilience is to limit the effects of current stressors such pollution and other impacts that degrade habitats. Habitat fragmentation can affect the health and vitality of traditionally-harvested species and limit access areas. Reducing these existing stressors can increase the health of the species and surrounding ecosystems, increasing their ability to handle and quickly recover from extreme weather events. Addressing legal, policy, and financial barriers to traditional harvesting practices may be important to these reducing stressors. These efforts may also require enhancements to monitoring systems or increased integration between programs.

T-11. INCREASE INVOLVEMENT AND COMMUNICATION WITH REGIONAL AND FEDERAL AGENCY MANAGEMENT PROCESSES TO SUPPORT SALMON RESTORATION AND TRADITIONAL USE OF THE SPECIES.

Many species will require a broad coalition of support and regional collaboration to ensure that they can be maintained and survive as the climate changes. Salmon are one species that requires this support. Becoming more active in protecting critical forest and nearshore ecosystems can better support salmon life stages in the region. The Tribe could also advocate and participate in the appropriate processes (installation of fish passage culverts, decreasing habitat fragmentation, monitoring stream temperatures, restoring complex stream function that limits the impact of high winter and low summer streamflows, etc.) to support salmon runs throughout the region and continue the traditional use of the species.

T-12. WORK TO SUPPORT AND ENHANCE THE RETURN TO TRADITIONAL FOODS BY REINCORPORATING FIRE AND TRADITIONAL PRACTICES TO MANAGE LANDSCAPES.

Traditional management practices include the use of fire on the landscape to remove understory plants and ladder fuels, where appropriate, to enhance growth of traditional plant and food resources, invest in food security, and actively support a variety of wildlife. Current forest management practices provide for and support deer and elk populations that are central to hunting. By combining current practices with fire and traditional practices, the forest can be managed for multiple benefits including reducing the risk of catastrophic wildfires and restoring conditions that support the growth of traditionally harvested species such as Indian tea and salal.

Healthy Lands and Forests

"LONG ISLAND IS AN ISLAND IN THE MIDDLE OF THE SHOALWATER BAY THAT HAS OLD GROWTH ON IT, AND IT'S ONE OF THE LAST PLACES WHERE THERE IS OLD GROWTH. EVERYTHING ELSE HAS BEEN LOGGED OUT." –TOM ANDERSON

"YOU CAN'T FIND A SINGLE HUCKLEBERRY BUSH. I'VE EVEN TAKEN WALKS IN THE BACK ROADS, BUT IT'S ALL LOGGED. AND THERE'S NOTHING AT ALL." –LEATTA ANDERSON

FIGURE 3 FORESTED UPLANDS NEAR THE SHOALWATER BAY TRIBAL RESERVATION. (PHOTO CREDIT: SAMANTHA CHISHOLM-HATFIELD)

The Tribe has relied on the forested upland areas for hunting, gathering, recreation, and cultural practices for millennia. The forested areas with their mix of old and new growth, understory plants, and animal habitat provide multiple benefits to the community. Tribal members hunt deer and elk in forested areas which are important for both food and traditional crafts. Wood is a valued resource for economic purposes (selling lumber) and cultural preservation, from carving to building to smoking fish. Riparian areas are critical to a diverse range of species and provide cool, clean water for salmon. Forest ecosystems are interconnected, and every plant and animal species serves a purpose.

Traditional forest management practices included strategic or cultural burning that would promote secession process and create space for important roots (Camas), grasses (sweetgrass), and berry plants (huckleberry, blackberry, salmon berries) to thrive. This in turn would draw in and create additional habitat for mammals, birds, and other species.

Due to a history of logging and western management practices, the current forested upland system near the reservation is predominantly Western hemlock and Douglas-fir and not as ecologically diverse as it was in the past or could be in the future. As the Tribe looks to build infrastructure in upland areas, it will be important to preserve existing forest habitats and ecosystems and make strategic investments in diversifying the forest. In doing so, the Tribe will help the forest ecosystem withstand changing climate conditions. It will also expand access and availability of traditional foods and resources. The Tribe is already working to grow these traditional plants and help create space for the continuation of cultural practices and multi-generational knowledge exchange through its Community Garden.

STRATEGY		PRIORITY
F-1	Manage forests for multiple benefits, balancing economic, cultural, health and wellness needs.	HIGH
F-2	Enhance, upgrade, and create new forest monitoring programs.	HIGH
F-3	Expand the diversity of native species and prevent the loss of culturally-important species within the Tribe's forested areas.	HIGH
F-4	Implement educational programs that invest in multi-generational knowledge sharing, encourage responsible use of resources, promote cultural practices, and protect ecosystem health.	HIGH
F-5	Establish a continual review process for conservation, cultural, and climate goals for forest ecosystems.	MEDIUM
F-6	Reduce existing non-climate stressors on forest ecosystems.	MEDIUM
F-7	Work to support and enhance wildfire resilient forest landscapes by reincorporating fire and traditional practices to manage forests.	MEDIUM
F-8	Create resilient wildlife populations by maintaining healthy ecosystems and habitat connectivity.	MEDIUM
F-9	Work across jurisdictions for larger-scale resilience planning efforts.	MEDIUM
F-10	Continue to partner with universities, other tribes, federal agencies, state agencies and others to enhance understanding of how forests and upland resources are projected to respond to climate change.	LOW
F-11	Prioritize watershed and riparian restoration and protection based on condition and a variety of resource values, including fish, wildlife, and other cultural uses.	LOW
F-12	Increase drought resilience in forests through management and planting of drought and temperature tolerant species and keeping water on the landscape.	LOW

FIGURE 4 HEALTHY LANDS AND FORESTS RESILIENCE STRATEGIES LISTED IN ORDER OF PRIORITY. EACH STRATEGY IS DESCRIBED IN MORE DETAIL BELOW AND GIVEN A CODE (E.G., F-1) THAT CAN BE USED TO REFERENCE THE MORE DETAILED INFORMATION.

F-1. MANAGE FORESTS FOR MULTIPLE BENEFITS, BALANCING ECONOMIC, CULTURAL, HEALTH AND WELLNESS NEEDS.

The Shoalwater Bay Tribe has successfully managed forests in the region for many generations. Traditional management practices included the use of fire on the landscape to provide food, encourage and support a diverse mix of plant and animal species, make travel easier, and support the overall health of the forest. Returning to traditional forest management practices alongside management techniques focused on providing economic benefits will help ensure the holistic health and wellness of the forest ecosystem. For lands not directly owned by the Tribe, it may require enhanced collaboration with regional entities and the State of Washington to adopting some management techniques and approaches.

F-2. ENHANCE, UPGRADE, AND CREATE NEW FOREST MONITORING PROGRAMS.

Enhancing, upgrading, creating, and implementing a multi-faceted monitoring program can help track the current health of the forests and see how it is responding to changing climate conditions. This may include: tracking location, distribution, and movement of invasive species; conducting biodiversity surveys to describe current baseline conditions and manage distribution shifts; and conducting surveys that estimate populations and distribution of selected plant and animal species. This type of monitoring can combine Traditional Ecological Knowledges, traditional practices, western techniques, and new technologies. In addition, monitoring programs can be multi-generational and provide opportunities for younger generations to interact with the forest.

F-3. EXPAND THE DIVERSITY OF NATIVE SPECIES AND PREVENT THE LOSS OF CULTURALLY-IMPORTANT SPECIES WITHIN THE TRIBE'S FORESTED AREAS.

Traditionally, Tribal members harvested and used resources from a wide variety of trees, bushes, grasses, and roots. Enhancing the diversity of tree species, both the genetic diversity within a species and the number of species on the landscape, will help limit the extent of disturbance from extreme weather and changing climate conditions. Active management can include proactively planting and replanting native and future climate tolerant seedlings in restoration areas and post disturbance in re-growth areas. It may also include setting aside areas for restoration to a traditional forest structure.

F-4. IMPLEMENT EDUCATIONAL PROGRAMS THAT INVEST IN MULTI-GENERATIONAL KNOWLEDGE SHARING, ENCOURAGE RESPONSIBLE USE OF RESOURCES, PROMOTE CULTURAL PRACTICES, AND PROTECT ECOSYSTEM HEALTH.

The forested areas support the Tribe’s lifeways, health, culture, and economy. Engaging community members around the appropriate traditional uses of forest resources can enhance the abundance of those resources and ecosystem health. Educational programs that enable knowledge sharing between elders and youth can preserve Traditional Knowledges, expand cultural practices, and enhance engagement with the forest.

F-5. ESTABLISH A CONTINUAL REVIEW PROCESS FOR CONSERVATION, CULTURAL, AND CLIMATE GOALS FOR FOREST ECOSYSTEMS.

It is important that climate resilience and cultural goals are considered in all the Tribe's management plans, including forest management and restoration plans. Scientific projections of climate changes are constantly being improved, and plans could be updated as necessary to ensure that management objectives are supported by the best available science. Plans can also be informed and updated through conversations with other departments to ensure they consistently meet multiple objectives.

F-6. REDUCE EXISTING NON-CLIMATE STRESSORS ON FOREST ECOSYSTEMS.

A first step in improving the climate resilience of forest ecosystems is to limit the effects of current stressors such as roads and bridges that can lead to habitat fragmentation and pollution that can affect the health and vitality of species. Indirect climate-related stressors include the proliferation of invasive species which, if removed, can help stabilize ecosystems and return forests to a more natural state. Reducing these existing stressors can increase the health of the forest and make it better able to handle extreme weather events.

F-7. WORK TO SUPPORT AND ENHANCE WILDFIRE RESILIENT FOREST LANDSCAPES BY REINCORPORATING FIRE AND TRADITIONAL PRACTICES TO MANAGE FORESTS.

Trees, wildlife, plant species, natural resources, and property within the Wildland Urban Interface (WUI) are increasingly at risk of wildfires. Though wildfire risk will continue to increase due to climate change, resilient landscapes can limit the extent of the fires, allow plant and animal species to rebound more quickly, and lower the occurrence of catastrophic fires. By combining current practices with traditional practices and cultural burning to remove understory plants and ladder fuels (where appropriate), the forest can be managed for multiple benefits, supporting hunting, and reduce the risk of catastrophic wildfires.

F-8. CREATE RESILIENT WILDLIFE POPULATIONS BY MAINTAINING HEALTHY ECOSYSTEMS AND HABITAT CONNECTIVITY.

Diverse and vibrant forest ecosystems are home to many different wildlife species, and healthy wildlife depends on healthy ecosystems. Lowering non-climate related stressors, such as pollution, will allow wildlife to better respond to and survive periods of extreme weather, such as drought. Limiting habitat fragmentation and increasing connectivity will allow animals to move to new areas as conditions continue to change.

F-9. WORK ACROSS JURISDICTIONS FOR LARGER-SCALE RESILIENCE PLANNING EFFORTS.

Forests extend beyond the properties owned by the Tribe and would benefit from a holistic approach to management across the region. Collaboration with state agencies, the Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service, NOAA, private landowners, and others, will help ensure a consistent approach to forest conservation and management in ways that enhance the resilience of the forest and the wildlife that depend on it. The success of many Tribal efforts (such as invasive species removal) will likely depend on the success of the region in dealing with these issues.

F-10. CONTINUE TO PARTNER WITH UNIVERSITIES, OTHER TRIBES, FEDERAL AGENCIES, STATE AGENCIES AND OTHERS TO ENHANCE UNDERSTANDING OF HOW FORESTS AND UPLAND RESOURCES ARE PROJECTED TO RESPOND TO CLIMATE CHANGE.

Healthy, vibrant, and resilient forests depend not only on temperature ranges, but also on adequate and clean water supplies. Continuing to work with universities, other Tribes, federal agencies, state agencies, and other partners to better understand how current and future changes in temperature and precipitation patterns (and subsequent changes in fire risk) could affect forest ecosystems in the region can help ensure that the actions the community takes are designed to improve the health of the forest.

F-11. PRIORITIZE WATERSHED AND RIPARIAN RESTORATION AND PROTECTION BASED ON CONDITION AND A VARIETY OF RESOURCE VALUES, INCLUDING FISH, WILDLIFE, AND OTHER CULTURAL USES.

Restoring and maintaining high quality habitat will help to mitigate effects of increased air and stream temperatures and maintain healthy and vibrant upland ecosystems. While water resource constraints are not currently limiting the upland ecosystems, choosing to invest in enhancing water distribution and availability at the appropriate watershed level now will help ensure the future health and vitality of these ecosystems by supporting the plant, animal, and cultural resources that depend on adequate supplies of clean water.

F-12. INCREASE DROUGHT RESILIENCE IN FORESTS THROUGH MANAGEMENT AND PLANTING OF DROUGHT AND TEMPERATURE TOLERANT SPECIES AND KEEPING WATER ON THE LANDSCAPE.

Changing precipitation patterns are likely to create longer periods of drought. Using a combination of traditional and current management techniques can help proactively prepare for future drought conditions, identify ways to keep water on the landscape, plant traditional drought and temperature tolerant species, and limit the impacts of drought on the forests.

Infrastructure

"THE NORTH COVE COMMUNITY WAS HERE. THERE ACTUALLY WAS A LARGE COMMUNITY CENTER, I REMEMBER THE BIG BUILDING LOOKED LIKE A SCHOOLHOUSE. THEN THE WASHAWAY STARTED, AND THE LIGHTHOUSE WAS GONE, THE ROAD THAT WENT OUT THERE WAS GONE, PRETTY SOON, HOUSES STARTED FALLING INTO THE WATER" – COLLEEN DIETL

FIGURE 5 ROAD SIGNS ON THE TOKELAND SPIT NEAR SHOALWATER BAY TRIBAL PROPERTIES. (PHOTO CREDIT: SAMANTHA CHISHOLM-HATFIELD)

For the Tribe, critical infrastructure encompasses much more than roads, buildings, and homes; it also encompasses important cultural use and recreational areas that provide vital services and support for the community. Infrastructure consists of transportation and recreational trail networks, utility systems, and other services that support the community. The physical size of the Reservation has drastically contracted over the years due to the loss of coastal land. As sea level rise and erosion continue to encroach upon and threaten coastal infrastructure, the Tribe must look for creative solutions to protect these resources in the near- and long-term. Stressors on these essential systems are exacerbated by short-term climate and weather-related events, such as coastal storms, and longer-term climate events, such as increased risk of wildfire, prolonged drought periods, continued sea-level rise, and changing storm patterns.

The Tribe has been proactively planning to move some critical facilities, services and buildings upland into the hills by purchasing adjacent properties to the reservation. The new upland service road and associate properties will allow for the relocation of administration buildings and gardens. It will also create space for the construction of new Tribal facilities and homes. Over the coming decades, coastal flooding of homes and properties will become an ever-increasing challenge that ultimately may become too costly or too hazardous to maintain infrastructure near the shoreline. In addition, there is the ever-present risk of acute earthquakes and tsunamis that endanger coastal infrastructure. Proactive efforts to create a safer community will help reduce the long-term exposure of certain infrastructure to coastal hazards, though this it will likely take decades. The following resilient infrastructure strategies provide a mix of options for protecting current infrastructure where it is, allowing the Tribe to buy more time to plan the construction of new, multi-beneficial infrastructure in a resilient location.

	STRATEGY	PRIORITY
I-1	Continue and enhance the monitoring of local and regional erosion from coastal storms and their impacts on the landscape and coastal infrastructure.	HIGH
I-2	Continue to support and fund coastal enhancement projects in order to reduce erosion rates and protect critical infrastructure and assets.	HIGH
I-3	Ensure that all new construction projects and updates to existing infrastructure on Tribal lands take into consideration current and future climate exposures and are built/updated to climate resilient standards.	HIGH
I-4	Build residential homes and tribal facilities away from current and future hazards.	HIGH
I-5	Educate property-owners on actions they can take to improve resilience of their property to climate change.	HIGH
I-6	Look for opportunities to establish or support cultural connections as new infrastructure is designed and built.	HIGH
I-7	Create redundant and resilient utility infrastructure with a focus on energy, water, and telecommunications.	HIGH
I-8	Enhance the education programs and events for community members centered around evacuation protocols, maps, and procedures for emergency preparedness and evacuation.	HIGH
I-9	Continue to invest in multi-benefit smoke protection measures in strategic locations to help protect the health of tribal members from adverse effects of wildfire smoke and particulates.	MEDIUM
I-10	Increase public awareness of air quality and monitoring actions the Tribe is taking to address potential health impacts of poor air quality.	MEDIUM
I-11	Review and update maintenance, operational, and emergency response capacity and procedures for Tribal properties and infrastructure to account for climate change.	MEDIUM
I-12	Protect cultural use areas and recreational sites, where possible, to ensure ability to use these locations as the climate changes.	MEDIUM
I-13	Increase resilience of trail networks and other recreation systems to coastal erosion, increased streamflows, and other climate exposures.	MEDIUM
I-14	Support and participate in the development of a regional and local drought contingency plan.	MEDIUM
I-15	Continue to foster and enhance coordination between organizations for pre- and post-disaster response.	MEDIUM
I-16	Identify additional opportunities to enhance the capacity of facilities (such as the Casino) to become Resilience Hubs, evacuation and clean air centers, cooling centers, and charging stations, during extreme heat or weather events.	LOW
I-17	Work with local, regional, and state agencies to ensure a safe and protected multi-modal transportation system within the Reservation and robust connections to neighboring communities and resources.	LOW

FIGURE 6 INFRASTRUCTURE RESILIENCE STRATEGIES LISTED IN ORDER OF PRIORITY. EACH STRATEGY IS DESCRIBED IN MORE DETAIL BELOW AND GIVEN A CODE (E.G., I-1) THAT CAN BE USED TO REFERENCE THE MORE DETAILED INFORMATION IN THE PLAN.

I-1. CONTINUE AND ENHANCE THE MONITORING OF LOCAL AND REGIONAL EROSION FROM COASTAL STORMS AND THEIR IMPACTS ON THE LANDSCAPE AND COASTAL INFRASTRUCTURE.

Monitoring current high tide elevations and extents, storms, king tide events, and long-term erosion rates can help to improve understanding of the rate of coastal change and provide support for both immediate, short-term responses and long-term changes. Continuing to support the monitoring the Tribe and the Washington Department of Ecology's existing monitoring work - while thinking of ways to improve or enhance the work - is important. The Tribe could consider developing and setting thresholds for various adaptation actions. For example, the Tribe could continue to protect certain shoreline infrastructure until a particular threshold is met (e.g., number of times restoration or enhancement is required, a particular sea-level rise elevation is surpassed, etc.). Once the threshold is met, the Tribe could move on to a subsequent action that could involve additional enhancement efforts or relocation of the infrastructure.

I-2. CONTINUE TO SUPPORT AND FUND COASTAL ENHANCEMENT PROJECTS IN ORDER TO REDUCE EROSION RATES AND PROTECT CRITICAL INFRASTRUCTURE AND ASSETS.

The Tribe has supported the work of the U.S. Army Corps of Engineers to replenish and restore the beaches and dunes along Tokeland and Empire Spit in order to protect the coastline and reduce coastal erosion, especially after large storm events that wash away significant amounts of sediment. While not a long-term solution to coastal hazards, continuing to protect valuable coastal land and infrastructure in this way could provide time for the Tribe to develop strategies for current and future relocation efforts as well as to retain access to and use of Reservation lands.

I-3. ENSURE THAT ALL NEW CONSTRUCTION PROJECTS AND UPDATES TO EXISTING INFRASTRUCTURE ON TRIBAL LANDS TAKE INTO CONSIDERATION CURRENT AND FUTURE CLIMATE EXPOSURES AND ARE BUILT OR UPDATED TO CLIMATE RESILIENT STANDARDS.

When planning for new construction, the Tribe can continue to consider current and future climate exposures and risks. Designing infrastructure for climate change can limit damage and destruction of homes and protect the health and safety of Tribal residents. For homes built in the Wildland Urban Interface (WUI) expanding defensible space, enhancing home hardening, using proper and fire-resistant building materials, and ensuring appropriate vegetation management around the home can reduce the risk of wildfires and limit their effects on Tribal residents. Coastal or shoreline construction could consider adopting recommended building elevations, construction materials, and other best practices when elevating structures and building on new or existing parcels.

I-4. BUILD RESIDENTIAL HOMES AND TRIBAL FACILITIES AWAY FROM CURRENT AND FUTURE HAZARDS.

As sea-level continues to rise, homes on the Tokeland Peninsula will be increasingly at risk of flooding during extreme tides and storms. Eventually (within the next few decades for some properties) many areas on the peninsula will be subject to regular flooding. This places the Tribe and community at an elevated risk of being cut off and trapped in isolation, as has occurred previously. Expanding Tribal properties and supporting families as they move homes is challenging from both an outreach and education perspective as well as a planning and engineering perspective. Planning now for re-centralizing the Tribal community uphill and away from coastal hazards can help ensure that the transition to higher elevations has adequate funding, maintains community connections, and is as least disruptive to Tribal members and to the natural

environment as possible. Thinking holistically about the structure and layout of the future infrastructure and community can help ensure the resilience of those facilities to future climate related shocks and stressors.

I-5. EDUCATE PROPERTY-OWNERS ON ACTIONS THEY CAN TAKE TO IMPROVE RESILIENCE OF THEIR PROPERTY TO CLIMATE CHANGE.

Enhancing the resilience of homes and buildings will require some investments in retrofitting or improving these properties. Developing educational materials and an outreach plan for property-owners can help them understand how to better protect current properties and improve the resilience of current infrastructure.

I-6. LOOK FOR OPPORTUNITIES TO ESTABLISH OR SUPPORT CULTURAL CONNECTIONS AS NEW INFRASTRUCTURE IS DESIGNED AND BUILT.

Cultural connections are critical to a thriving and vibrant community. With every new project (both upgrades to existing infrastructure and development of new infrastructure), comes opportunities to enhance cultural and multi-generational connections. These improvements could include benches and seating areas, enhanced trails, or easier and expanded access to traditional use areas. It is also essential to consider connections between structures and land, the initial siting of these structures, and the potential climate impacts like beach erosion and increased coastal flooding.

I-7. CREATE REDUNDANT AND RESILIENT UTILITY INFRASTRUCTURE WITH A FOCUS ON ENERGY, WATER, AND TELECOMMUNICATIONS.

Energy distribution, water distribution, wastewater collection systems, and communication systems tie our communities together. While the Tribe owns and operates the majority of the water and wastewater services directly, it does not own or operate the energy or telecommunications systems. For these systems, the Tribe can partner with regional and state entities and advocate for and support enhancing the resilience of these systems. Resilient systems have redundancy, are flexible, and able to dynamically respond to extreme weather events, changing conditions, natural disasters, and other stressors. They provide the backbone support for the health, safety, and wellbeing of all residents.

I-8. ENHANCE THE EDUCATION PROGRAMS AND EVENTS FOR COMMUNITY MEMBERS CENTERED AROUND EVACUATION PROTOCOLS, MAPS, AND PROCEDURES FOR EMERGENCY PREPAREDNESS AND EVACUATION.

To work effectively during a disaster, all residents must be prepared and educated on what to do during these events. The Tribe has been working to prepare the community for emergencies and evacuation by acquiring a pump trick, training Tribal staff to deal with wildfires, and doing Yellow Brick Road and The Great Shakeout training events. FEMA and other agencies have a suite of resources that could continue to be adapted for use in the community to help ensure that every family is prepared before an extreme weather event and knows what to do during those events. This may include training and support assembling "go-bags". The Tribe can build off the foundation of existing educational events and programs it provides on earthquake and tsunami events and utilize additional supplies and capacity from COVID response efforts.

I-9. CONTINUE TO INVEST IN MULTI-BENEFIT SMOKE PROTECTION MEASURES IN STRATEGIC LOCATIONS TO HELP PROTECT THE HEALTH OF TRIBAL MEMBERS FROM ADVERSE EFFECTS OF WILDFIRE SMOKE AND PARTICULATES.

Wildfire smoke will continue to be a part of life in a climate-altered future including particulates from regional fires that do not directly threaten the community. Smoke can be particularly dangerous to elders, children, and those with pre-existing conditions such as heart disease and asthma. Enhancing local air quality monitoring, continuing to maintain air filtration systems in public facilities, distributing (and providing guidance on using) low-cost systems and face masks that filter smoke and improve indoor air quality during smoke episodes can help limit impacts on community members and essential workers.

I-10. INCREASE PUBLIC AWARENESS OF AIR QUALITY MONITORING AND ACTIONS THE TRIBE IS TAKING TO ADDRESS POTENTIAL HEALTH IMPACTS OF LOW AIR QUALITY.

Air quality is impacted by multiple climate hazards and changes, including increased average temperatures and risk of local and regional wildfires. Continuing to monitor local air quality on the Reservation is essential. Increasing public awareness of the monitoring that is currently happening can help inform Tribal members of the importance and need for continued monitoring, aid in communicating the real-time data (especially to sensitive groups) and additional capacity to monitor and take action.

I-11. REVIEW AND UPDATE MAINTENANCE, OPERATIONAL, AND EMERGENCY RESPONSE CAPACITY AND PROCEDURES FOR TRIBAL PROPERTIES AND INFRASTRUCTURE TO ACCOUNT FOR CLIMATE CHANGE.

It is not just the siting and construction of infrastructure that can increase resilience, but also how those structures are used and operated. Complementing the updated design standards by updating operational and emergency response procedures can be important in reducing climate exposures and risks and enhancing adaptive capacity. For example, enhancing the maintenance and debris removal schedule for stormwater and drainage infrastructure can allow better performance during extreme precipitation events. The Tribe can also review and update emergency response protocols as necessary to ensure that the appropriate departments have adequate capacity and training to respond to more frequent or more intense extreme weather events (such as closing roads when needed due to flooding or wildfire).

I-12. PROTECT CULTURAL USE AREAS AND RECREATIONAL SITES, WHERE POSSIBLE, TO ENSURE ABILITY TO USE THESE LOCATIONS AS THE CLIMATE CHANGES.

For the Tribe, "infrastructure" is more than roads and buildings, it can also be important cultural use areas and recreational areas that provide vital support to the community. Assessing these locations and taking action to help ensure that (where possible) they are protected from changing climate conditions is important to preserving critical cultural traditions. Key cultural (including religious, spiritual, and/or ceremonial) locations and archeological sites that are not necessarily identified or shared publicly could also be considered and discussed in a manner that the Tribe is comfortable with.

I-13. INCREASE RESILIENCE OF TRAIL NETWORKS AND OTHER RECREATION SYSTEMS TO COASTAL EROSION, INCREASED STREAMFLOWS, AND OTHER CLIMATE EXPOSURES.

Trails can provide alternative transportation routes and access to culturally-important and traditional use areas that are critical to maintaining use of these resources and maintaining the health and vitality of the community. Evaluating the trail network (especially coastal access points) and enhancing the resilience of the network to a variety of climate exposures can help ensure that connections to these important cultural areas are not lost. One way to enhance resilience of trail networks and recreational areas is to encourage the planting of culturally-relevant species.

I-14. SUPPORT AND PARTICIPATE IN THE DEVELOPMENT OF A REGIONAL AND LOCAL DROUGHT CONTINGENCY PLAN.

The Tribe could support local and regional efforts to be better prepared for drought. This could include developing or expanding a local drought contingency plan, integrating drought planning in existing wildfire plans and efforts, setting a framework for water conservation efforts during extended drought, and ensuring the protection of water resources for natural ecosystems that support Tribal health and wellness.

I-15. CONTINUE TO FOSTER AND ENHANCE COORDINATION BETWEEN ORGANIZATIONS FOR PRE- AND POST-DISASTER RESPONSE.

It takes hard work, good communication, and strong partnerships to effectively prepare for and respond to disaster. The risk of rising sea level inundating homes and coastal transportation networks and more frequent, intensifying, and less predictable wildfires are on the horizon. The Tribe can better prepare for these events now by investing in partnerships that will enhance the community's ability to face future challenges.

I-16. IDENTIFY ADDITIONAL OPPORTUNITIES TO ENHANCE THE CAPACITY OF FACILITIES (SUCH AS THE CASINO) TO BECOME RESILIENCE HUBS, EVACUATION AND CLEAN AIR CENTERS, COOLING CENTERS, AND CHARGING STATIONS, DURING EXTREME HEAT OR WEATHER EVENTS.

Communities across the country are developing Resilience Hubs by enhancing the ability of public buildings to serve the community during extreme weather events. For example, Resilience Hubs can be designed to have effective smoke and particulate filtration systems, ensuring the health and well-being of residents, especially during an emergency. These designated hubs should be located outside of high-risk zones and can incorporate solar and battery storage systems to provide for cooling, water, power, and communications during power outages and reduce utility costs during daily operations. Multiple Tribal buildings already serve this function to some capacity, and the Tribe can greatly benefit from a coordinated approach to developing designated Resilience Hubs within the community.

I-17. WORK WITH LOCAL, REGIONAL, AND STATE AGENCIES TO ENSURE A SAFE AND PROTECTED MULTI-MODAL TRANSPORTATION SYSTEM WITHIN THE RESERVATION AND ROBUST CONNECTIONS TO NEIGHBORING COMMUNITIES AND RESOURCES.

The transportation network supports the Tribal community daily by helping people, goods, and services move effectively between locations. Ensuring that culverts and bridges can handle higher peak stream flows, expanding the multi-modal use capabilities (walking, biking, and ATV use), and partnering with State and regional transit entities to consider climate projections in transportation upgrades, can all enhance the resilience of the system and the people and industries that use it.

CONCLUSION AND NEXT STEPS

FIGURE 7 SUNSET FROM THE SHOALWATER BAY TRIBAL LANDS. (PHOTO CREDIT: SAMANTHA CHISHOLM-HATFIELD)

The Shoalwater Bay Indian Tribe are inherently resilient people. They have dealt with, responded, and adapted to changing environmental and social conditions for millennia. They are now faced with human-driven climate change that is affecting the traditional foods, species, lands, waters, forests, and infrastructure that the Tribe relies on. Beyond providing sustenance or income, these resources and the surrounding systems support the social and cultural fabric of the community. Restoring diversity to the forestlands is one way to support harvesting traditional foods and provide opportunities for intergenerational knowledge sharing and learning. Robust, redundant, and resilience infrastructure can support everyday quality of life and effective responses during extreme weather events or other disasters.

The Tribe has taken a number of steps on the journey to building resilience through investing in better understanding climate change projections for the Reservation and their possible impacts on critical resources and species. Developing this Resilience Plan is another essential step in the Tribe's on-going, dynamic effort to respond and proactively adapt in ways that advance the Tribe's priorities and interests.

The plan is a foundation for future action. It provides a framework for designing efficient and effective actions and enhancing on-going initiatives within each of the outlined resilience strategies. Taking a proactive approach to reducing climate risks by restoring native vegetation, returning to traditional practices as part of a holistic approach to management, and building resilient systems allows the Tribe to invest in the spiritual, cultural, and physical health of the community. This framework and the priorities assigned to each strategy can be used to justify pursuing grants or other funding opportunities that will help bridge the gap between planning and implementation, ensuring that the community will continue to thrive for centuries to come.

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