Appendix

Table of Contents

Section One: About the Authors - Positionality Statement

Olivia Horwedel is graduating from the University of Washington with a Masters in Marine Affairs and a Certificate in American Indian and Indigenous Studies. She will begin her PhD this fall at the University of Washington in their Geography Department where she plans to continue weaving together Indigenous Knowledge Systems, marine mammal conservation, and food sovereignty. She was born and raised in Michigan, and is of European and Anishinaabe (Odawa) descent.

Isabel Jamerson is graduating from the University of Washington with a Masters in Marine Affairs and a Certificate in American Indian and Indigenous Studies. She will continue working for the Urban Ocean Lab after graduation, where she develops equitable ocean and climate policies for coastal cities. Isabel remains dedicated to decentering Western frameworks in policy making and employing community-based research and methodologies. Isabel was born and raised in Seattle and is of European descent.

Danny Kosiba is graduating from the University of Washington with a Masters in Marine Affairs and a Certificate in American Indian and Indigenous Studies. Danny will continue to pursue work in human-wildlife interactions and prioritize transdisciplinary, community-driven projects. He was born and raised in what is now Michigan and is of European descent.

Section Two: Research Design

A major component of our time in graduate school was familiarizing ourselves with Indigenous research methods and theories to better understand how to integrate our research within the field of Indigenous Studies. Indigenous Studies has been foundational to the creation of our research questions, development of our work, and the way we disseminate it. This section illuminates the theories we applied to the analysis of our interviews, as well as the way we synthesized our findings. Many of these readings and conversations originated in our Critical Indigenous Theories course at the University of Washington with our fellow cohort of students under the guidance of Dr. Dian Million and Dr. María Elena García.

The following methodologies are those that should be considered and implemented when delving into research with Indigenous communities. However, these protocols are not all encompassing of the work that should be done. Indigenous Nations differ, and even within an Indigenous community, one will find a myriad of perspectives among the various ages and backgrounds. Additionally, the type of research conducted will shift the methods utilized as well. Therefore, these research methodologies are meant to suggest a general structure of cultural respect and reciprocity under a decolonizing framework, yet they can be and should be adapted to the community needs and the skills the researcher provides.

Guiding Research Questions

Questions that shaped our research:

1. How have previous sea otter reintroductions impacted Indigenous communities along the Pacific Coast?
2. How can future sea otter reintroductions occur in a way that prioritizes Indigenous knowledge, governance, and collaborative management?

Questions that shaped our research approach:

1. Who is this research for?
2. How does this research benefit the communities we are working with? Is this research something they want?
3. What is the motivation behind this research?
4. Why is this research being done now? How can this research help benefit current and ongoing work happening in communities?

Section Three: Indigenous Research Methods

Introduction:

One of the goals of our project was to expand beyond Western approaches to research design, and ensure that our work aligned with Indigenous research methodologies. In addition to filing an Institutional Review Board application through the University of Washington, we wanted to ensure that our work was being done in a respectful and reciprocal manner with those we were working with. We took an Indigenous Research Methods course at the University of Washington, which provided imperative literature to guide us through these methods before our research started. We highlight the research methods we employed below as well as how our research process emphasized Indigenous studies frameworks.

Prior to Research:

Prior to working with communities, it is imperative to acknowledge the impacts of colonization and how it has affected not only the people we work with, but additionally how it impacts people's experience throughout the research process (McGregor, Restoule & Johnston, 2018, Rawlings et al. 2021). Colonization has manifested itself through the loss of language and other forms of cultural erasure, the dispossession of land and displacement of people, as well as the disruption of cultural norms. Therefore, it was crucial for us to do our own research, and inform ourselves of the history and culture of the communities along the Pacific Coast that we worked with.

While learning about the community is important, so is building relations within that community. Trust building takes time, and there is no set amount of time that ensures the trust is built. Engagement with the community throughout time, connecting with the leadership and having a community liaison, however, are all ways to garner trust (McGregor, Restoule & Johnston, 2018). Lastly, the relationships and trust built within that community should go beyond the scope of this project, and there should be continued effort into building and maintaining the connections in the community.

Given our large study area, it was difficult to build thorough relationships with the entirety of each community we worked alongside. We were fortunate to have mutual relations and connections with our interviewees, who were able to connect us to many of the individuals we spoke with. While one person's voice does not represent an entire community or people, the

geographic and time constraints of our project limited our number of interviewees. As such, this project serves as a base for these discussions to continue growing and evolving within and between communities. Through this process, we have done our best to continue communications and relations, building on our interviews and continuing working together.

The last necessary element prior to conducting our research was to create a research outline and agreement that includes general time frames, communication styles, and ways to work alongside members of that community. To create this framework, expectations were set on the level of commitment from the community and us as researchers given the resources and desired outcome (McGregor, Restoule & Johnston, 2018). Partnerships and agreements should be formed during this process that inform how data is collected, stored, used and what will be given back to the community (McGregor, Restoule & Johnston, 2018, Wilson 2008). Researchers should not assume a role for themselves, their goals, and their knowledge, but rather they should be directed by communities and center research done on their terms, with their values (Simpson 2021). The research topic was decided by our client and community partners, as well as informed by our interviews and literature review. As the researchers in this project, we also provided our perspectives on the purpose of the research, our involvement, timelines and time frames, and how this working knowledge will be disseminated. We also discussed communication between ourselves and the communities we were collaborating with, such as holding monthly meetings, sending transcripts and drafts to our contributors, and working with them through workshops and continued dialogue. Throughout this formal outlining process, community protocols were respected and prioritized as the ultimate goal for the research is to benefit the community, not the researcher.

During the Research Process:

Literature Review

Once the outline and research framework were decided upon, then the research topic was narrowed down, and the collection of data began. We first began with a literature review of information on the current and ongoing studies of sea otter reintroductions. Many of them were site specific, which supported our goal of coalescing stories to draw parallels and comparisons between lived experiences with otters on the Pacific Coast. This literature review was foundational in the creation of our research questions as well as our conversations and interview questions, but it is not the main focus of this report as we wanted our work to showcase the Indigenous voices working at the forefront of this work, rather than following the format of traditional academic reports. This led us to conducting interviews along the Pacific Coast in three distinct regions.

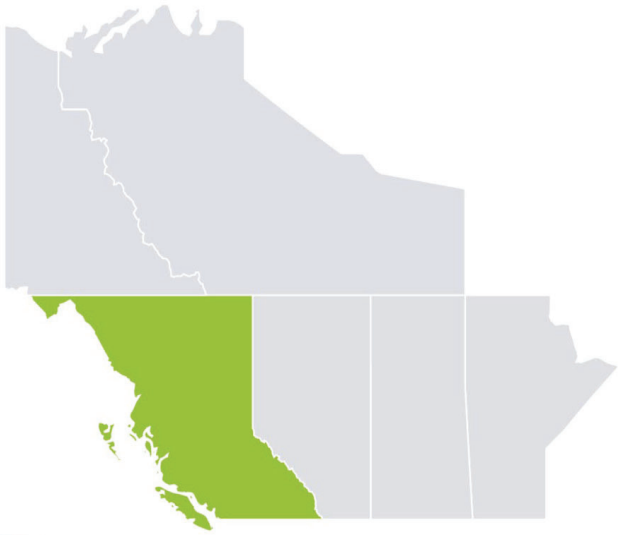
Study Regions: Decentering Western Place Names through Celebrating Indigeneity

Region One: Alaska

1

Region 1 represents the homes since time immemorial of the Eyak, Lingit, Haida, Tsimshian; the peoples in the southwest region include the Yup'ik and Cup'ik Alaska Natives; and the Aleutian Islands are the home of the Alutiiq (Sugpiaq), Unangax, and other Indigenous peoples in what is present day Alaska.

Region Two: British Columbia



2

Region 2 represents the homes since time immemorial of the Tlingit, Haida, Nisga'a, Gitksan, Haisla, Heiltsuk, Oweekeno, Kwakwaka'wakw, Nuu-chah-nulth, Coast Salish, and other Indigenous peoples in what is present day British Columbia.

Region Three: West Coast of North America

3

Region 3 represents the homes since time immemorial of the Hoh, Makah, Quileute, Quinault, and other Indigenous peoples in what is the present day Washington coast; the Confederated Tribes of Coos, Lower Umpqua and Siuslaw, the Confederated Tribes of Grand Ronde, the Confederated Tribes of Siletz Indians, the Cow Creek Band of Umpqua Tribe of Indians, the Coquille Indian Tribe, and other Indigenous peoples in what is the present day Oregon Coast; and the Tolowa, Yurok, Wiyot, Mattole, Sinkiyone, Coast Yuki, Pomo, Coast Miwok, Costanoan, Esselen, Salinan, Chumash, Gabrieleño, Luiseño, Ipai, Tipai, and other Indigenous peoples on what is the present day California Coast. In this section we will refer to specific parts of the region using settler place names.

Study Regions: Decentering Western Place Names through Celebrating Indigeneity

Our study area spanned the West Coast of North America from what is present day California to Alaska (Figure 3). Throughout our report, we explored the current state of sea otter and human relations in these three distinct geographic regions: Region One (present day Alaska), Region Two (present day British Columbia) and Region Three (present day Washington, Oregon, and California). While Indigenous communities do not fall perfectly within any settler boundary, particularly within the boundaries of our study regions, we hope to honor the coastal Indigenous communities that have histories with the land and seas of the regions and decenter settler-colonial place names when possible. The figures above highlight the communities that hold these relations as represented by Native Lands Digital.

Interviews:

From our study regions, we aimed to gather interviews from diverse voices to highlight previous otter reintroduction efforts, the impacts of such reintroductions, and recommendations moving forward. We reached out to possible interviewees, with a goal of having at least two interviews for each region. By the end of the process, we were able to host interviews with voices from the community, government, academia, and the various intersections that lie in between.

Once we set up interviews, we worked on creating semi-structured interview templates (the templates are provided in Section 6). Each template was tailored to the experiences of the individual we were speaking with, however, each template shared questions on the history of sea otters in that area, people's relationships with otters, the current state of otters and reintroductions in that area, as well as recommendations for future reintroductions.

Each interview lasted approximately one hour, and was recorded on Zoom with the consent of our participants. During the interviews, one member of our team would be the primary speaker, introducing the project as well as our questions. A second member of the team would record notes and keep track of time. Each Zoom recording also produced a transcript that a member of our team would clean up after the interview, editing out pauses and other filler words so it could be read more easily. This editor would also fact check to ensure the transcript accurately picked up the audio from the Zoom call.

After conducting all of our interviews, we did a preliminary read through of our transcripts and decided on codes (or keywords) that captured the primary themes from each interview. To understand the frequency of themes, parallels, or differences between interviews, we used Dedoose, a qualitative data analysis software, to upload and apply codes to each transcript. In order to achieve consistency in our coding, we developed the following set of methods through

conducting two rounds of coding. In the first round of coding, one member of our team would read through the transcript and apply codes according to the keywords that stood out from the interviews. In the second round of coding, another team member would double check the first coding and highlight any issues or gaps. By the end of this process, each interview was coded by the three members of our group for accuracy. Once these codes were produced, we were able to group these codes into larger themes which are presented in Section 3-6. The codes helped us organize and structure the report, as well as decipher the most important goals and recommendations suggested for future reintroduction efforts. While Dedoose was a helpful tool in understanding the main findings of each interview, we made sure that we did not reduce our interviews into data points. Instead, we have used our interviews as the primary source of information throughout this report, ensuring our collaborators guide future reintroductions through conversations rather than utilizing an approach based in numbers and codes.

Reflections:

When conducting these interviews, we ensured that we reflected upon this research method and how it meets the needs of the community. Some of those questions included: which of these data collection methods follows the protocol of the community? Can this information be digitized, and how should it be secured? During this process, aspects of consent, anonymity and protection of culture were discussed.

This process was upheld in the context of our project, as we not only filed for an IRB, but also pursued consent from each of our interviewees in the interview process and in the review of our drafts. During our interviews, we asked consent to record the interviews, asked permission to use quotes for our drafts, as well as shared drafts with our interviewees prior to publication and sharing this information with our research partners, the Elakha Alliance. The information provided by our interviewees remains in a confidential folder that can only be accessed by our small research group, and will not be shared unless permission has been granted by the interviewees.

Throughout the research process, we continued to evaluate ethics and community support in asking:

- Is this research making a constructive difference in the community?
- Is it achieving the goals set forth by the community?
- Should edits, adaptations and changes be made to further enhance the wellbeing of the community?
- How can we continue to contribute to the community after the project deliverable is finished?

These are all questions that we addressed at each step of the research process to ensure that we were doing the work it takes to follow through with the research agreements set forth prior to the research beginning.

Post Research:

After we collected our data, the analysis portion of the research began. McGregor acknowledges that through the analytical processes of research, there often is only one lens being applied to the finished product (Wilson, 2008 & Rawlings, Flexner & Riley, 2021). One way to get around that, however, is if data is left available to the community. Community consent and review of the report assists with avoiding a singular bias to the data (Schnarch, 2004). We are ensuring the information is available to the community through reviewing the drafts, implementing feedback, as well as ensuring that the report is available to the public through the consent of our contributors. Additionally, this information has not only been presented to the Department of American Indian and Indigenous Studies and the School of Marine and Environmental Affairs at the University of Washington, but also at various community and network gatherings such as the Cross-Pacific Indigenous Aquaculture Network. Sharing and exchanging the knowledge we have gained through this project ensures diverse perspectives on sea otter reintroductions that can guide future efforts that prioritize community and ecological wellbeing.

Additionally, the project will be a success for both the community and the researcher if it contributes to knowledge translation and transfer in and out of the community. Wilson (2001) states “the co-generation of knowledge results from shared understandings between researchers and Indigenous communities, and both contribute to the resulting body of knowledge”. Having the results of the project contribute back to the community is the basis and meaning of community-driven research. In addition to the goals and outcomes of the research, the finished product and deliverables must be given to the community prior to publishing or distributing the findings elsewhere. Our final report has been approved by all our community partners to ensure their voices and perspectives were accurately represented. This finished report was provided to our clients as well for informing future otter reintroductions in Oregon, but it also is hosted on their website where the public can access it. The entire report, as well as section summaries, make this information incredibly accessible and engaging for the public. It is our hope that the communities in Oregon can use this information as a point of reference, and inform them of the possible outcomes of reintroductions to help inform their perspectives, knowledge and guidance of it happening on the Oregon coast.

The final step of our research methods and processes was to demonstrate our gratitude for our community partners through a gift as a way to thank the community in a reciprocal fashion. The

practice of gift giving perpetuates the customs and protocols of the Indigenous cultures we worked with (Maar et al., 2011). We offered gifts and thank you notes to each of our community partners as a token of our appreciation for their thoughtfulness, care, and time provided to shift the status quo of current reintroductions, and guarantee future efforts honor and include Indigenous perspectives.

Despite this project nearing its end, it is our hope and goal to continue connecting and deepening relations with our community partners, keeping in touch as well as prioritizing the community's needs in future research or work efforts.

Section Four: Indigenous Theories

Many Indigenous theories of research and being were prevalent in the literature and stories we explored. The sea otter is deeply intertwined in the lives of those we spoke to in diverse ways, and theories help to explore the nuances specific to people's experiences as well as the areas they reside. We familiarized ourselves with Indigenous theories that were discussed in our coursework as well as further explored them during our literature review as they applied to this project. It is critical to engage in these Indigenous theories to push beyond the Western exploration typified by sea otter management in many places and open paths for more collaborative and equitable relationships along the coast.

Kinship

Kinship and more than human relations were evident in each of the conversations we held with various community members. We frame this Indigenous theory through our interviews, but also in integral works of Indigenous scholarship that further highlight the importance of these relations.

To begin, we want to highlight the work of Dr. María Elena García's chapter on non-human and kin relations in Peru. This work provided greater language to explore the significance of both the loss of sea otters and the gain from potential reintroductions. In her work, Dr. García notes there are constraints of human rights frameworks "that do not allow for more expansive and relational politics," and because of this, she asks for "the kind of Indigenous theorizing that understands that colonial violence necessarily harms both humans and nonhumans and ruptures relations." She goes on to say "Indigenous theorizing opens up space for repair through the recognition of those ruptures and the possibilities that recognition offers for rebuilding kin networks and for rebuilding worlds lost" (García, 2023). This Indigenous theorizing is exactly what can be applied to our research and work. It is our goal that, through our deliverable, we make space to repair the ruptures and rebuild worlds. Whether or not that rebuilding will result in reintroductions remains to be seen as each community will decide what is best for them. The repair can be illustrated by the power Indigenous communities have to make decisions on what should be done and how it should be done rather than the government agencies holding that power (Martinez et al. 2023). This departure lays the beginning pieces to rebuild a lost world.

Throughout this project, relationships and kinship have been a thread of continuity in our interviews for rebuilding this world. Works from Leanne Betasamosake Simpson (Biidaaban) as well as the scholarly writings of Dr. María Elena García, Dr. Zoe Todd, and Patty Krawec, illuminate the deep connections humans have to non-human animals, the relationships that non-

human animals maintain with people, and how those relationships tie people to the land. Like Dr. Todd and Krawec address, there is a paradox to this project and the relations within. Otters are both kin that many people have held relations with, while the manner of their return now is harmful in many cases. Much of the enactment and the impacts they are having on the relations that have grown since their removal is steeped in paradox. There is a desire to rebuild these worlds through restoring and rebalancing the relations between otters and people. However, restoring more balance to these relationships means that the process of reintroductions need to change. In places like Alaska, where reintroductions occurred without the input or guidance from Alaska Native tribes means that it is imperative for the government to collaborate alongside Indigenous communities, adopting co-management strategies as well as prioritizing Indigenous knowledge systems and governance throughout the process. In areas like Oregon, where reintroductions have yet to occur, the government must involve Indigenous Nations prior to the reintroduction, establishing good relations with community, listening, and learning to work towards collaborative co-management for future reintroductions.

Grounded Normativity

According to the works of Dr. Glen Coulthard & Dr. Leanne Simpson, grounded normativity embodies the ethical and moral frameworks that stem from the Indigenous knowledge of land and place-based practices to support the environment and sustain Indigenous ways of life. This theory is an extension of kinship, as it illustrates the co-existence of people to place, and all reciprocity and relations that comes with a landscape and ecosystem.

In speaking with Mike Miller, Dr. Sonia Ibarra, and Tukshaak'éi Peele during the interview process, it was clear that grounded normativity was foundational to many of the experiences and perspectives shared with us. In the interview with Tukshaak'éi, she described her role as a hunter for her community. Harvesting otters was a healing journey for her, connecting her to place by dreaming of her ancestors who harvested there for thousands of years before her. Additionally, she is able to reconnect with cultural practices through the act of harvesting otters, learning about how to tan hides, sew, and pass this knowledge on to future generations. Furthermore, the intimate knowledge of the landscapes and ecosystems helps to maintain the resources in these areas as well as the relations to the animals and Place.

Dr. Sonia Ibarra recalls an interview during her dissertation research where she spoke to harvesters in Yakutat. They explained how their role as hunters assisted in not only keeping people healthier, but also improving the health of otter populations. With a managed otter population, communities are able to harvest more shellfish, and otters are able to consume more shellfish as well. Harvesting is an Indigenous management strategy that has been passed through generations that helps to minimize the boom and bust cycles that populations face. The Yakutat

community has seen otters reach their carrying capacity, where there are more otters than the ecosystem can handle. This has led to skinny and malnourished otters. Through harvesting, ecosystems can sustain the humans and non-human kin that rely on the resources they provide as well as promote biodiversity. These teachings exemplify the power of grounded normativities as they present themselves in community and interviews.

Politics of Recognition

Dr. Glen Coulthard, an Indigenous studies and political science scholar is known for his theories around the politics of recognition, where policies and politics impact the ways that Indigenous communities are recognized by settler governments. Dr. Coulthard discusses the risks in the politics of recognition, which can be applied to our conversations we had with contributors. In Washington and Oregon, it has been difficult for communities to assert and maintain relations under the oppressive, settler colonial system. Being so closely tied geographically, the actions of the Boldt Decision, which upheld treaty rights for Washington tribes to fish in usual and accustomed grounds, also impacted the Indigenous peoples in Oregon. Peter mentions how the state feared the concessions given up by the settler government in Washington so much that they restricted their fishing and natural resource rights heavily.

While there is no way for us to do justice to the disruptive, fierce actions of Indigenous peoples in this region, our interviewees discuss this, the engagement in politics of recognition in Oregon and Washington has had markedly different impacts. One could argue that in Washington, these pursuits were less recognition-based, with regards to the organizing and action that led to the Boldt decision, but were the type of imaginative assertions of self-determination grounded in land-based relations that Dr. Coulthard supports. Despite this, the rights and land claims approach in these states has yielded very different scenarios for the peoples living there today. Because of these past engagements, the positive and grounded normativity based, as well as the negative, the impact of returning sea otters in each location is very different.

The locational flexibility afforded by Indigenous fishers in Oregon may allow some alleviation that the protected, accustomed areas of the Treaty tribes in Washington cannot avoid with sea otters and other marine mammals they share food sources with, and cannot manage too directly under settler structures. That being said, in Oregon, the limited allotments and inability to harvest any otters may yield the same result in the end if the species people are most concerned about are sessile or less mobile than various finfish. Despite these harmful histories, Peter points us back to the positives and the leadership of those before him that forged new futures and built trust with the US and state government in such a way that gives him optimism for the future, and especially this project.

Transhemispheric Indigeneity

Dr. Emil Keme introduces the idea of resistance through transhemispheric Indigeneity. Dr. Keme plays with the nuances, contradictions, and power of proposing "Abiayala[1] as a transhemispheric Indigenous bridge" in order to "develop a dialogue that could potentially lead us to develop political alliances in the formation of a new Indigenous and non-Indigenous historical bloc' (Keme, 2018). While Dr. Keme recognizes that the formation of this alliance could face the criticism of reducing or generalizing a multitude of cultures and diversities into one Indigenous voice, he also explains that the goal of this global historical bloc is to further Indigenous rights movements, in order to address internal and external oppressions but also to unite in the struggle to overcome external and internal settler colonialism. This framework is useful for this work because through our interviews we discovered a myriad of perspectives surrounding sea otter reintroductions on the Pacific coast. The themes of entanglement, nuance, and a variety of Indigenous priorities that Keme wrote about, are central conversations in our work as well. Dr. Keme provides the theoretical framework to showcase the importance of sharing lessons learned across communities which translates to our research as one of our primary goals is to further Indigenous sovereignty through restored relations between otters and Indigenous peoples.

Acts of Refusal, Resistance and Resurgence

Acts of refusal, resistance and resurgence were another present theme that was interwoven throughout our interviews, as well as explored by scholars such as Dr. Leanne Simpson in her book, *As We Have Always Done*. Throughout these conversations, there were several mentions of the battles between academia and Indigenous research, Western science and Indigenous ways of knowing, as well as US federal governance and Indigenous sovereignty. Dr. Sonia Ibarra refused these academic limitations by working on her PhD for over ten years, taking the time it truly requires to build these meaningful relations with the communities she works alongside. Another way she refuted the confines of academia was by ensuring her work was for these communities, framing her research to answer questions they had, rather than practicing extractive research methods that often accompany academic institutions.

Mike Miller has demonstrated resistance and resurgence in communities by fighting for the rights of Alaska Natives to harvest marine mammals, like otters, under the statutory regulation of the Marine Mammal Protection Act. For many years, Fish and Wildlife officers would make arrests of those harvesting otters, leaving many communities traumatized and wary to continue this culturally significant (and legal) practice. Miller has worked tirelessly to ensure his

[1] Abiayala represents the ancestral name of the Western Hemisphere and was proposed to be used by Emil Keme to help reimagine a global Indigenous Framework through reclamation, existence, and perpetuation of knowledges prior to settler contact. The goal of Abiayala is to advance collective resurgence in contemporary times.

community feels safe hunting otters and they have come much closer to this today. Through refusal and resistance, there has been a resurgence of otter hunting in Southeast Alaska. Through his work with Sealaska Heritage Institute, Miller has also helped provide classes that teach Alaska Native communities how to work with the otters, tan their hides, sew the pelts, and revitalize aspects of language and culture that accompany the otter harvest.

Reconciliation

Reconciliation as a theory came up a number of times in our interviews. We were able to ground the conversation in the nuances and theoretical frameworks of Dr. Coulthard's explanation of reconciliation. In *Red Skin, White Masks*, Dr. Coulthard writes, “in such conditions, reconciliation takes on a temporal character as the individual and collective process of overcoming the subsequent legacy of past abuse, not the abusive colonial structure itself. And what are we to make of those who refuse to forgive and/or reconcile in these situations? They are typically cast as being saddled by the damaging psychological residue of this legacy, of which anger and resentment are frequently highlighted” (Coulthard 2014). Reconciliation is a temporal idea and does not overcome past abuse or deconstruct the colonial structure itself. While not free of colonial structure, the Haida Nation is asserting their sovereignty in the reintroduction planning process by saying we will do this work with or without the Canadian government’s support. Thus, there isn’t a simple binary surrounding reconciliation. This exploration and analysis of reconciliation is essential while we sort through our conversations and consider the implications of reconciliation for other Indigenous communities engaging in this work.

Reimagining Indigenous Futures through Dreaming

Imagining and dreaming are methods for reimagining Indigenous futures and are crucial when discussing recommendations for potential reintroductions. Dr. Dian Million introduces dreaming as a way to decolonize, defining it in part as “the effort to make sense of relations in the worlds we live” (Million, 2011). Through the act of dreaming, we open up relational ways of knowing that allow us to connect, empathize, and move beyond capitalistic individualism, thus beginning down the road of decolonization. Dr. Million includes Dr. Craig Womack’s thoughts on dreaming, quoting him when he says, “Dreaming the origin stories of experience puts us in an active, rather than a passive, or unexamined, relationship to experience” (Million, 2011). When dreaming up what future reintroductions look like, it is important that the active relationship to experience is a part of this work, that empathy and relationality are prioritized. Using dreaming as a framework highlights the opportunity to break free of colonial structures and processes and identify a project that prioritizes Indigenous methodologies, that there is an opportunity for joy

and beauty in this work, and that by applying dreaming as a methodology we can explore something greater than what we thought possible.

There are many complex nuances in the lived experiences of Indigenous communities along the coast and their involvement in sea otter reintroductions. Despite governments largely not involving Indigenous communities during the reintroduction process, Alaska Native communities fought to have their voices be represented in the collaborative management of this species. On Haida Gwaii, they expressed that they were leading the way in their approach to sea otter reintroductions, that it was the first of this kind. Now, the federal government has made more of an effort to build meaningful relationships with tribes, trust is slowly being built, ecosystems are in the process of reestablishing themselves, and otter harvests are becoming more common along with the cultural traditions that accompany them. We have come a long way, but Indigenous knowledge and governance must be prioritized as we progress forward in management decisions for otters.

Through these kinship studies, we have learned so much about what went wrong with previous reintroductions, and how the government must restructure future reintroductions to center the Indigenous communities impacted. With that being said, there is a lot of room for dreaming in future reintroductions. Representatives from Oregon coastal tribes are the leaders of initiating otter reintroductions to their waters. However, US Fish and Wildlife is the primary authority in charge of any reintroductions. Fish and Wildlife must ensure that despite the initiative of Oregon tribes, they build relations to these communities early on, listen to the various perspectives, create collaborative management plans that prioritize Indigenous knowledge, and work together as co-managers of these culturally significant ancestors.

Section Five: Biographies of Interviewees

Region One:

Mike Miller (Sitka) is a sea otter hunter and sewer, is on the Sitka Tribal Council, is a board member for Sealaska Heritage Institute, is the chairman of a Statewide Co-management Group, the Chairman of the Indigenous People Council of Marine Mammals, and is a former member of the Alaska Scientific Review Group.

Sonia Natalie Ibarra, Ph.D., (Apache, Caxcan, Mexicana) completed her doctorate at the University of Alaska researching the ways that Alaska has been impacted by colonial natural resource management, specifically as it pertains to Indigenous Knowledge and management of lands and waters. Dr. Ibarra is now the Tamamta Program Postdoctoral Fellow & Program Coordinator at University of Alaska Fairbanks where she continues to weave together Indigenous and Western knowledge through elevating community voices and experiences of Indigenous peoples.

Tukshaak'éi Sarah Peele (Haida) is a mother, hunter, otter harvester, Hydaburg community member, student at University of Alaska Southeast, a teacher, birth educator and doula.

Region Two:

Gwiisihlgaa Dan McNeill (Haida) is the marine stewardship director for the Council of the Haida Nation. He also holds a seat on the Gwaii Haanas Archipelago Management Board, where representatives from the the Department of Fisheries and Oceans, Parks Canada, and Council of the Haida Nation jointly manage the Gwaii Haanas area. He is one of the co-leads for the X̲aayda Gwaay.yaay K̲uugaay Gwii Sdiihltl'lx̲a, project.

Lynn Lee, Ph.D. is a marine ecologist at Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site, and spent her PhD researching the ecological interactions between kelp, abalone, sea otters, and people throughout the coast of British Columbia.

Region Three:

Peter Hatch is a member of the Confederated Tribes of Siletz Indians, and works in the tribe's Cultural Resources office. He's been fishing, clamming and crabbing in Lincoln County his

entire life, and wants to ensure that his descendants can always do the same. He currently sits on the Elakha Alliance's Board.

Jessica Stocking is the Lead Marine Endangered Species Biologist at the Wildlife Program at the Washington Department of Fish and Game.

Casey Clark, Ph.D. is the Lead Marine Mammal researcher at the Wildlife Program at the Washington Department of Fish and Game.

Michele Zwartjes, Ph.D. is the Supervisor of the Oregon Coast Field Office for the US Fish and Wildlife Service. Michele was the primary author on the feasibility study mandated by Congress to analyze opportunities for sea otter reintroduction on the Pacific Coast. *The views expressed in this report are the personal opinion of Michele Zwartjes and do not necessarily represent the views or policies of the U.S. Fish and Wildlife Service.*

Chris Law, Ph.D. is an Provost Fellow at the Department of Integrative Biology at The University of Texas at Austin. He received his doctorate degree at the University of California Santa Cruz where he researched feeding behaviors and fitness in southern sea otters.

Section Six: Interview Questions

INTRODUCTION: Varied for each individual we interviewed

SECTION 1: Background and Experience.

- To start, could you please tell us
    - What positions do you currently hold?
    - Could you tell us about your work with these orgs?
- In your own experience, how would you describe your relationship to sea otters?
    - How would you describe the relationship between your community and sea otters?
    - Now vs. historically?

SECTION 2: Research Topic Focus

- Historically, what has happened with sea otter reintroductions in your area?
    - Can you tell us what role [your organizations] have played in sea otter reintroduction or management?
    - What happened, what was your role, what was this experience like for you (your organization, or community)?
    - Now what is the current situation with sea otters?
- What are some of the effects of reintroducing sea otters that you have seen and how has it changed over time? What are the differences in the immediate and long term effects of these introductions?
    - Ecological effects?
        - positive or negative
    - Cultural?
        - positive or negative
    - Food systems and fisheries?
        - positive or negative
    - Economic?
    - Industry?
    - Recreation?
- How would you describe the management process for sea otter reintroductions across agencies and communities? What are the policy processes needed for reintroduction efforts?
    - What did it look like?
        - Governance process of past reintroductions and policy to inform future reintroductions.
        - Post-reintroduction management of sea otters?
    - Collaborative?
        - Does your community have agency in managing otters?
        - What is the relationship like between government agencies and your community?
    - What worked well?
    - What needed improvement?
    - Cultural limitations of management?
        - Regulations of harvest?

        - Pelts?

SECTION 3: Speculation, open ended, conclusion…
Sea otter reintroductions are clearly multifaceted with effects felt in many areas, so…

- What do you think is the most important thing for future sea otter introductions to remember in order to center Indigenous self-governance?
    - What does an ideal reintroduction look like to you?
- How has the return of sea otters impacted your area/home overall?
    - Was it beneficial/net positive?
    - Was it detrimental overall?
    - Was everyone impacted (positively or negatively) or certain individuals?
- Is there anything important that you want to add, which I haven't asked you?
- Is there anyone else we should speak with about these things?

SECTION 4: Logistics

- Can we cite you in the report?
    - Would you like to be cited by your name or do you prefer something else?
- How would you like to be referred to in the report?
- Is there anything we discussed that you would prefer is not included in the report, or reported without your name attached?
- Would you like a copy of this recording, the transcripts, or anything else?
- Would you like a copy of the report prior to publishing?

Section Seven: Themes & Quotes List

Storytelling

"A lot of the research that we're making draws connections between otter harvest and potentially some balance, but, by and large, the researchers are not willing to discuss the otter harvest. It's been driving me a little bit nuts because they don't want to talk about killing otters or anything. And so we're looking at a project for the Sitka sound study specific to retell it - the otter harvest and all the pitfalls and ups and downs of actually getting to where we did, because otherwise we're not really telling the story properly. If it's just point A to point B, people probably won't be able to replicate it… We are actually working on a NSF proposal to get that story told better with all the pieces, to give a more Indigenous perspective of point A to Point B… We're working with Tim Tinker and folks at that level, Jim Bodkin, and to actually really fully tell the story I think everybody still is realizing it hasn't been told. There's things that happened that don't fit what the old narrative was, or the old belief of what would happen. I think there's a tendency for folks to not want to admit that their projections might not have been quite spot on. But they didn't, and in there, there is a story. It's a neat time."

- *Mike Miller (Sitka), Region One*

"I think it will be a good story to be able to tell - standing on Port Orford Heads, one of the great potential habitats, we'll be able to point out and see sea otters and see a positive step that tribal folks have been involved in, along with many others, to try to restore those homelands, to bring back the abundance that they once were in."

- *Peter Hatch (Siletz), Region Three*

"This is from an interview from Craig, Alaska with Debbie Head. I think it's really important to emphasize this understanding. She says, 'I want to share something that I've heard over the years passed down by my elders and it spoke really strongly to me. And that's why I remember it. Canoeing in the boat, a young man goes out to hunt and he looks over and he sees an otter bobbing. He says, you better go to the outside waters or you're gonna end up a head man's headdress. People talked to the sea otters and they said, you better go to the outside. And that's how I heard it. And that's how it was. There was an understanding between the otter people and the people that inhabited an area and they saw them and they talked to them. So our people went to war and many people died because of boundary disputes. And all of our people were not just people. We had otter people, we had wolf people, eagle people, we had raven people, the spirit of all these creatures, the killer whale people. There was always an understanding between the people and the otter people and they held their boundaries. I believe we held our boundaries. We're not doing a very good job of that right now.' And so this, this oral history account, it's not just a story, there's so much embedded in the talks about the relationship that people had with the otters and saying you better go to the outside waters…I don't know if outer waters meant away from the community or on the outside waters, but either way there was this spatial segregation that promoted balance and there are components of spirituality in the story kept in

balance. Clams have a spirit, the land has a spirit, everything has a spirit. This is coming from the Indigenous world view of this place."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"It's interesting even to watch the abalone because even though there are otters in the area, they're not. Abalone kind of get a defense mechanism if they're picked at a lot, they kind of stay hidden in the rocks, and you know they develop some kind of strategy to not be just hanging out. But the ones that we pick are obviously pretty happy abalones because the low tides in the summer they're just out sunning on the rocks and it's easy to go pick them. There's something here, the story we're trying to figure out how to tell it properly. That there was a harvest management that seemed to be a driver at least. Obviously there's other ocean conditions and sea star wasting issues and some of the other things that helped. But we believe that the harvesting initiative helped to restore a, I don't know if it's necessarily a balance, but at least the things that we thought were good food that was really important are back and people are harvesting here in the sound."

- *Mike Miller (Sitka), Region One*

Early Engagement

"A couple of things stand out in my mind - you have to build consensus with all the folks in the region who are potentially harvesting, or are being most directly impacted because otherwise it's a series of Tribal voices and there are enough nuances just from one tribe to the next…. So to me that's really a key thing is that it has to be whatever your initiative is, if it's related to natural resource, it has to keep the the most informed people the most direct contact people at the start of the initiatives, because if you try to bring them in second it doesn't fit right."

- *Mike Miller (Sitka), Region One*

"I would go to those Indigenous communities who have those respective territories and ask, What do you envision? Do you want these things here? And if you want them here, do you want us to bring them here forcefully? If these things start to come back naturally, I think we would probably have a much stronger push back than if we just started to bring the sea otter back. We could piss off a bunch of fishermen, some of our own people."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"So there's a lot of potential for really good cooperative management work, and it already has happened through the land use plan and various other agreements that are already in place, and have been in place for decades. I think overall there's much more appetite and much more willingness on the part of provincial and federal agencies to work more collaboratively with First Nations, but it doesn't mean it's easy. It doesn't mean that it always goes smoothly. Make

sure that outreach [about sea otters] in the community and those discussions are happening before because then you can have those discussions about the positives and negatives, and really get those emotions out and discussed before there's actually the critter there."

- *Dr. Lynn Lee, Region Two*

"I think that one of the most important things is that whatever agency ends up pursuing this project starts consultation early and construes it broadly. There are going to be, in addition to the tribes who are represented or formally support the Elakha Alliance, there are going to be a lot of tribes up and down the neighboring Washington and California coast, for instance, who are gonna have a stake in these kinds of decisions. I think that it's fairly common for these kind of major projects that Tribes end up, or Tribal leadership especially, ends up feeling like they're being presented, or being consulted on like a cake that's already baked, effectively. And so if some of the formal outreach efforts, even with the existence of the Elakha Alliance, start early, at the most fundamental stages, then I think that's most often the recipe for success."

- *Peter Hatch (Siletz), Region Three*

"I think one place that sometimes falls short, not speaking directly to anyone in Oregon, but sometimes people solicit the meetings, they have the conversation, they jump through all those hoops with Tribal members, or other people or other stakeholders, and then they don't put any weight on what they hear there, or they feel like that just by listening, they have checked off that box or completed that they've gotten input. Then they proceed with what they were intending to do already. I think a lot of that is similar in science where there's a push to incorporate more traditional ecological knowledge into sort of 'Western science', whatever you want to call what we traditionally have been doing in science, and in many ways it becomes a very side tangential thing or something. They have a couple interviews with local people and then boom! We're done now we can go do what we came here to do. So obviously avoiding that would be ideal."

- *Dr. Casey Clark, Region Three*

"I mean that's still something that's really high on our list [addressing potential negative economic impacts from sea otters], but is totally outside of our wheelhouse in terms of developing that kind of thing. We definitely are going to have to have some kind of economic contractors who have experience in that area who can help us to develop those as well as having stakeholder engagement meetings to have people tell us what would work for them, and what wouldn't you know? I mean the last thing in the world I want to do is come in and say, Hey, the Government has developed this program for you to help you, and here it is, and it's like well, that's not what I need at all, you know you totally misunderstood. So having them help us develop those plans is going to be really important."

- *Dr. Michele Zwartjes, Region Three*

"We've had a number of public engagement sessions where we've brought in experts from other areas Southeast Alaska, West Coast, Vancouver Island, Central coast, and a lot of the time we want to hear the Indigenous side of the story, and I think there is a general interest. The last two years we've done an annual Coast Watch workshop, and we get funding for species at risk, and sea otters are listed in Canada here. So, we kind of give updates on what we've learned, or where things are at with the species, and it generates that little bit of discussion within the community. We're trying to get that feedback being like, Oh, you're a traditional harvester, where would you like to see otters? We have a community centrally located on Haida, there's Skidegate, then Masset, it's up here, and that's the Northern community. But, the community members have crabs and clams, right in front of our village. We depend on that right close to home. It's probably like the past. So it's like, okay, that's consistent with what our ancestors did, and that's great feedback. Maybe we want to protect the north end, North Beach. There's a ton of razor, clams, cockles, weathervane scallops, abalone, rock scallops, and the list goes on. And then down here, same thing. I think that's certainly some feedback we got thus far, but we're not nearly close to being done with that work yet."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"I think in terms of actually being able to collaborate in a meaningful way, since you're starting out now, and the otters aren't in Oregon yet, then I don't know how far these discussions are going, or how far they're going to get before a management planning discussion, before they think about the actual reintroduction, but I would say the further along those relationships can get built, and those plans, or at least some initial draft plans can be in place, so that nobody is surprised by what happens, then that will help with actually continuing to work together in a positive and constructive way."

- *Dr. Lynn Lee, Region Two*

"So to me that's really a key thing is that it has to be whatever your initiative is, if it's related to natural resources, it has to keep the the most informed people, the most direct contact people at the start of the initiatives, because if you try to bring them in second it doesn't fit right."

- *Mike Miller (Sitka), Region One*

Relationship Building

"Building those relationships and taking the time to do that is really probably the most critical thing that can be done."

- *Dr. Lynn Lee, Region Two*

"There is importance in authentic relationships with the communities that you're working in. I think a lot of researchers who are younger and starting to come into communities are also recognizing that. I think that moving forward with people who are looking at reintroducing sea otters, they need to do years and years of work of building trust with the community that they're going to be altering because it's such a significant alteration. If they don't talk to the people that are going to be directly affected, they won't know the possible negative outcomes. They could be really educated on all of the great things, like more kelp, but what other things could possibly happen? How are we possibly causing harm to hundreds, if not like thousands of people? So really that authentic connection and ongoing consistent communication. And not just looking at community members as just another regular person, or a lay person, they are experts in their own ways. And I think people who will be heading up those sea otter reintroductions need to understand that you don't have to have a Ph. D to know what you're talking about."

- *Tukshaak'éi Peele (Haida), Region One*

"My point is that we stand on the shoulders of other kinds of Tribal leaders who have done a lot to build programs and build trust. And not these kinds of adversarial relationships with the Feds and the State as it used to exist."

- *Peter Hatch (Siletz), Region Three*

Collaboration & Co-management

"I think one of the most important things is that they [communities] have a seat at the decision making table. So that power and responsibility does not only lie within the agency that is managing the sea otters."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"So for the progress I've made, it's always happened through building a consensus with groups, and some of it is not fun, you have to really stick your neck out sometimes. But definitely have a clear vision of where you need to get and be willing to correct when you make mistakes, because the progress we've made is littered with all kinds of wrong assumptions. And so you just have to keep grinding away."

- *Mike Miller (Sitka), Region One*

"I think that in general, there's an intention to have increasingly improving, respectful, and good interactions with our co-managers. I definitely don't want to claim that we're getting it right across the board at this present moment, always room to improve."

- *Dr. Casey Clark, Region Three*

"I think Gwaii Haanas is one of the first of its kind in terms of cooperative management between an Indigenous Nation and the Government of Canada. So it has set the stage and been an example for many other cooperative management work that's been done in British Columbia and Canada."

- *Dr. Lynn Lee, Region Two*

"So I would say that collaboration will be much more successful before the introduction in getting far enough along that there's the relationship and the trust built where you can keep working on things together. But to have some plan in place, so that people are all comfortable with where things are going to go, and how they're going to play out as the otters in theory expand in population. Then, having some sense of what that actually looks like, and having all of the governance agencies agree to that in advance, will make all the difference."

- *Dr. Lynn Lee, Region Two*

"You have to find the kind of the right people in the agencies to work with… it has to be people that are willing to bridge gaps and do some uncomfortable stuff, and you know it's quite a few times I've had to tell folks. Hey look, I don't know if we'll be back, you know ... It's not an easy process to do."

- *Mike Miller (Sitka), Region One*

Restoration & Revitalization

"I think it is one of the main ways that we, as hunters and harvesters, are able to feel connected to our ancestors. Just going out on the same waters that they have lived on for thousands of years is just so amazing. My family has been in this exact spot, even though I didn't know them, you can describe the feeling of knowing. And we've lost so much, but we haven't lost this experience. So being able to be an active member of trying to restore that natural balance between sea otters and humans is so amazing, the feeling is not describable at all."

- *Tukshaak'éi Peele (Haida), Region One*

"I hope that the restoration of different kinds of traditional harvest can someday be a tool in our overall human toolkit to benefit the ecosystem by maintaining or re-establishing traditional management practices for the species."

- *Peter Hatch (Siletz), Region Three*

"I think the most important thing from the ecological perspective is actually looking beyond just the sea otter as an individual species or the sea otter and its keystone species role, and beyond that in its function in the whole ecosystem and putting it in the context of climate resilience. Sea otters are wonderful, and people like to see them because they're cute, but that to me kind of pales in terms of comparison to their ecological role. All of the benefits that we could see in terms of increased diversity and enhanced ecosystems and the ability of both the species and the ecosystem to respond to climate change and all the ecosystem services that they can provide to people. So I think that very large ecosystem context is the most important thing."

- *Dr. Michele Zwartjes, Region Three*

"They've [First Nations in Canada] always recognized that the relationship with sea otters is something that was lost [in recent times], and that they support it coming back. But coming back in a way that also revitalizes culture and the relationships that people had with the otters and the coastal ecosystem, not just having sea others come back without any sort of relationship or intervention in their return."

- *Dr. Lynn Lee, Region Two*

"Former Coquille Tribal Chief and former Elakha Alliance Board Member, Don Ivy was fond of saying, that 'when the tide is out the table is set.' Which is to say that there are a vast number of good things that you can get from the intertidal zone, the clamming and crabbing and mussels. I have to admit that our folks used to gather more goose necks and that I don't really know how to gather, or I don't know who doesn't that much of that in current practice. But clams, mussels, crabs, and many other kinds of shellfish, especially back in the day, are still very important to tribal families living along the coast. I think that for all kinds of different generations of my family - for my dad growing up as a military brat, living all around the country - going back to visit his grandparents on the Siuslaw River and clam and crab and fish in Florence was one of the first ways he found to express his sense of indigeneity and ties to Oregon. So that's how he developed his love for this place. It was very much the same for me when my grandfather retired he went and lived in Newport. So on both a very practical feeding the family level, and in a way of expressing connection to this place by going and harvesting some good food, that was really fundamental to the way my family was brought up in a way that I hope to raise my son."

- *Peter Hatch (Siletz)*

"There's symbolic importance of moving toward restoring our environment and taking a proactive step, that will hopefully have cascading effects beyond direct human intervention, as

opposed to saying something like the poor kinds of watershed advocates on the many rivers. Well, they do so much work just to reintroduce a former stream course in a wetland that has become a cow pasture just to have that little tiny slice of habitat restored for fish. It's so much work to get even to that, and there's no feedback effects, but it's not like something that can happen without further and further intervention. I would hope that once there's a self-sustaining population of sea otters that they will reach a threshold where they could take care of themselves and slowly expand their range and fill out that gap. And nice to re-establish some kind of gene flow between these new Oregon otters and the California otters, and in an imperfect way, to replicate that system that had always been in place and for us to protect our nearshore ecosystem."

- *Peter Hatch (Siletz), Region Three*

"The otter pelt is used in regalia and in headdresses, and all sorts of Haida cultural items, and it's still woven into those items. So even though we don't have sea others here, they still persist as part of the cultural use. So I think obviously there's an interest in restoring that relationship and what it would look like if people could hunt sea otters here when they return to sufficient numbers. And so that's what people are looking at, is how are we going to use it if we're going to retain shellfish values. For example, in a particular place near a community, and we are going to hunt these animals, then the use of those animals in cultural ways is something that people are looking to restore. And to learn from people like Mike [Miller] in Sitka, where they have been hunting otters, and have been tanning and doing all the things that are required to go from hunting an animal to using it."

- *Dr. Lynn Lee, Region Two*

"In the bays and estuaries actually, it would be more targeted towards seagrass restoration, because we don't have the kelp in those bays and estuaries as much. Sea grass has definitely had a significant decline in Oregon and in California as well, and those are systems that we know are very efficient at carbon capture and sequestration. And so there could be multiple benefits from seagrass restoration. So that would be more of the target in those particular areas as opposed to the kelp forests."

- *Dr. Michele Zwartjes, Region Three*

"Historically, otters went all the way down to Baja California, so they're going from Mexico all the way to Alaska. I can only conceive, based on the ecological impacts, it would probably bring better balance in terms of recreating those old kelp forest systems and those seagrass systems that a lot of different animals need to survive and it can can only help to bring bring those ecosystems back into their bigger, their full potential."

- *Dr. Chris Law, Region Three*

"We have really important finfish fisheries, and we have really important shellfish fisheries. So the obvious impacts are going to be negative for shellfish overall and positive for fish over time. But the fish recovery will probably take decades, so it's not something that will happen right away. And I feel like commercial fisheries depend on generally bigger animals. But the other thing we've done is this kelp restoration project where we removed urchins. So we're pretending to be sea otters eating urchins, except we're just either taking them for the community for harvest or commercial use, or crushing the ones that don't have enough roe. And so six years into the project for the monitoring work this last year, we had the most kelp come back that we've seen, and more diversity of kelp species in the understory and the urchins… So the kelp goes down to about forty or fifty feet, and then below that there's still lots of urchins. And those urchins are now super well-fed, so they have way more roe in them than they used to before. So there are benefits - even though there are less urchins, we're getting a lot more roe, and the urchins that are there, their quality is much higher. So they're all these different trade-offs that happen that are not obviously clear[at first glance]."

- *Dr. Lynn Lee, Region Two*

"I think that those immediate symbolic and practical effects [of sea otters] on the southern coast, and the longer term multi-generational potential good effects throughout the coast are worthwhile"

- *Peter Hatch (Siletz), Region Three*

"I think it's a great idea personally, because the otters always had, you know whether it was in balance or not, they're an important driver to the ecosystem, and that's undisputed."

- *Mike Miller (Sitka), Region One*

"And one thing that I've [noticed], it wasn't through the interview process, but speaking with harvesters and otter hunters in Yakutat is that the way that this hunter explained it to me is that being in relationship with the otters through the hunting process not only produces healthier people because you can access large shellfish and just shellfish in general because it becomes less abundant as the otters become more more common in the area, but secondly it produces healthier sea otters. And I asked her to elaborate, what do you mean by that? And she said, well hunting as a strategy that has minimized this peak in sea otter abundance and then a huge, massive drop and these large fluctuations in the sea otter populations, hunting was a way to stabilize that boom and bust that naturally occurs. And so what they've seen in the community of Yakutat is that there's a lot of sea otters that have reached their like carrying capacity in that area and there's no longer enough available shellfish for the population to maintain its current level. And so a lot of sea otters are really skinny, they're starving. Their hair looks like an animal that's malnourished. So I think that's a really important understanding that is contrary to the conservation lens of having as many sea otters in a location as possible."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"I think that an important lens to highlight in this report is that people are not going to be able to have access or the ability to incorporate Indigenous management strategies in Oregon because of this blood quantum requirement. Folks in Canada are trying to find ways around that system and that limitation. But I think that's an important feature to highlight in the report. Is that that important part of maintaining balance is not going to be there."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"So we go through this phase of encouraging harvest and making sure this full utilization of the skins and people are comfortable doing it and that peaked in probably the 2013/14 timeframe in Sitka Sound, and again it wasn't necessarily tied to trying to bring back shellfish because we thought they were gone right. And it was funny, though, in the 2016/2017 timeframe, while we're out doing the usual harvesting, herring eggs and harvesting seaweed. We started to see the shellfish, the chitons and abalone coming back. And it was really odd to see that, because nobody really anticipated that, even a lot of the lead otters biologists were of the the opinion that you have to take all the otters out of the ecosystem to to have stuff come back right, and the one thing that well, we increase the harvest quite a bit."

- *Mike Miller (Sitka), Region One*

Prioritize Indigenous Knowledge

"I think there's a need to work together with Tribes to return management to them. They have a much longer history of managing sea otters and being in relationship with sea otters. During my dissertation presentation, I showed this diagram where it shows thousands of years that people have been managing sea otters and been in relationship with sea otters compared to the very recent history of Western management that began in the late 1960s. I think that there's a need to work closely with Tribes to understand how different management strategies would result in the outcomes that communities are interested in."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"Most of the scientists that are kelp lovers are like the more sea otters the better. But as Indigenous people, we know that more predators is not always better because there's only so much food and so many resources to go around. I haven't heard too many stories when sea otters were not present, but I know a lot of stories that have been passed down about sea otters and the mutual understanding that they have their own space, they have their own villages, and we have ours."

- *Tukshaak'éi Peele (Haida), Region One*

"We give updates on what we've learned, or where things are at with the species, and it generates that little bit of discussion within the community. Right now we're trying to do a forum in March where we're trying to get that feedback asking - Oh, you're a traditional harvester, where would you like to see otters? If you don't include Indigenous people right from the get go, then, good luck because you're going to hear from them. And the voices are getting louder these days."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"I started to understand that research is extractive and it has a history of being extractive unless you create products that are meaningful to the communities you intend to serve. Taking data is still taking and that's a form of colonialism. I started to question how as an Indigenous person, I was promoting these ideologies as I was also working on reconnecting with my ancestors and questioning how colonialism had influenced my view in the world and my education and training. So being in community and hearing these stories of extraction that are still happening today, I realize this is not a past thing, this continues in research."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"I'm very interested in talking with the tribes and honoring their concerns and their interests, and learning from them in terms of their traditional knowledge. And we've already heard some really interesting feedback on some of that in terms of their history of interacting with sea otters and coexisting with sea otters. I think they have some really interesting perspectives to share on that."

- *Dr. Michele Zwartjes, Region Three*

"If it's going to be Indigenous people driven, I think it's kind of in their hands…give them the final say in terms of how to make those reintroductions."

- *Dr. Chris Law, Region Three*

"So, I guess my view is that it is our lives as folks who stake our claim to these lands and waters into being Indigenous to this beautiful place on the Oregon coast. Our sustenance, our ability to continue down the generations as anything like distinct people, despite all that we have undergone, and despite that, we live very differently, and look very differently. Our society, our ways of life, have undergone so many changes since the nineteenth century. We continue to rely on and uphold the abundance of a whole web of related species. It's hard to make it into an animal list and make it into a plant list, necessarily, but we wouldn't weave baskets the way we do without knowing the landscape enough to pick the hazel sticks at a certain time of year and having the right conditions up on the ridge to grow bear grass. You can't make the regalia for our dances without the availability of woodpecker scarlet and red abalone and river otters,

which are all different beautiful things that come from our landscape that are a part of how we express ourselves."

- *Peter Hatch (Siletz)*

"Yes, the reintroduction of sea otters to Southeast Alaska is considered a conservation success, but there were a lot of consequences that have happened and continue to happen that influence and negatively impact commercial fishermen and especially the scope of my dissertation research impact Indigenous subsistence based communities. From this point forward, I'm gonna stop using the word subsistence. Subsistence in the dictionary is a very means like meager existence, like barely an existence. And the traditional shellfish resources that sea otters and people eat in Alaska are more than food. They're more than nutrition. They represent a whole way of life. So when you lose a connection to these customary traditional foods such as clams, crabs, you lose a way of life, you lose a process of transmitting knowledge, you lose a connection to the water and these resources or more accurately these relatives as it's been explained to me, and you lose a part of yourself. There's a very popular saying that you are what you eat and that is a lesson that I've learned very clearly up here."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

" Marine spatial planning is just the newest Western science idea of having different people or allocated areas for certain non-human animals to be utilizing an area and it's a way that you can kind of have balance and based on realistic thresholds. When people are trying to promote this Indigenous management sea otter hunting strategy, they're not talking about wiping sea otters despite their strong feelings about losing their foods there. They're talking about a small geographic area close to their community and they see the role that sea otters play in bringing back kelp forests outside of that area. So if you look at this, this mosaic of ecosystem that's produced when Indigenous people are allowed to manage in the way that they've been doing for thousands of years, you will have kelp forest ecosystems with sea otters, you'll have shellfish ecosystems with shellfish and it actually productive becomes a very diverse system at a like landscape scale. And that's one of the ideas that is promoted in sea otters being good for the environment is that they promote biodiversity at these small spatial scales. So this world view of Indigenous and this expertise of Indigenous management also touches on those things, but on a much broader scale."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

Windows of Opportunity

"You wait for windows and when one of the pieces is aligned, then you try to move really quick. Who knows when it is, with such a screwed up Congress and country at this point, we don't know

who's going to be in place. But right now we've got some of the pieces with some people meeting on both sides of the aisle where maybe there's enough support to do this."

- *Mike Miller (Sitka), Region One*

"We got a favorable government in terms of being an Indigenous person right now. Marine conservation is a priority with 20 by 25 marine protection and 30 by 30 initiatives. They throw around 'reconciliation,' and all these fancy 'Let's play nice' words where, not too long ago, not even like a decade ago, we had a very strong, right-wing conservative government. We're getting turned off and they were walking away from tables and it was almost like they're slapping us in the face. Where right now we have a bit more of a favorable government. So I guess my point I'm trying to make is that we're trying to strike while the iron is hot, because the pendulum can swing next election cycle and then we're just back to being like, 'Well we gotta wait for whatever years until X, Y and Z happens'. Right now it's not perfect by any means, but it's workable. Right now we are working towards some sort of common goal amongst all the partner groups and manager partners and all these scientists and everybody that's involved where a lot of bright minds are coming together trying to find solutions. And it's mainly for the benefit of the Indigenous people which has not been done much on our coast. From a Haida perspective we like to be trailblazers, so this is just another one where maybe we can lead the way, and have that guiding light of trying to work together and find solutions together."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"We have this window to be able to really seriously think about people managing an ecosystem and restoring cultural practices and ecological values. The work that we're doing is trying to understand where those values are that the communities have, where the important shellfish harvesting areas are that they would like to try and maintain even as otters come back in. So some sort of spatial management. And then in that spatial management, looking at how you can also promote cultural restoration in that relationship between sea otters and people and rebuilding that, too."

- *Dr. Lynn Lee, Region Two*

"Particularly now with Secretary Haaland being in place there's been a renewed emphasis on our partnerships and interactions with Indigenous people which has been really wonderful, and we've got a new series of workshops that are on a national level where we have various people from different tribes across the country talking about issues that they've dealt with in the past, and particularly in kind of the natural resource world. You know what's been problematic for them and helping us to understand how we could do things better and improve interacting with the tribes. I think this happens monthly. I just got a notice about one of those recently. So there's been a real push or increased understanding of historical perspectives, I think on the one hand, and then, you know, really learning from those moving forward, and how we can improve in the future. So that's been really good to see."

- *Dr. Michele Zwartjes, Region Three*

"We're making more progress and trying to work together, and doing things mostly in a three-party way so that it's the federal agency, these parks and DFO, and then the Haida Nation working together on things like carrying out rebuilding plans and plans for managing marine areas and reconciliation. And there are all kinds of agreements that are going on between both Canada and the Haida Nation and the Province and the Haida Nation. So there's a lot of potential for really good cooperative management work, and it already has happened through the land use plan and various other agreements that are already in place, and have been in place for decades. Now, I think overall there's much more appetite and much more willingness on the part of provincial and Federal agencies to work more collaboratively with First Nations, but it doesn't mean it's easy. It doesn't mean that it always goes smoothly."

- *Dr. Lynn Lee, Region Two*

Modeling and Monitoring Reintroductions

"We're recognizing the balance between a 'Yes, I'd love some furs' and maintaining our traditional foods. We're starting to ask ourselves now, if these things do keep coming back, when and where do we want them? Where are they acceptable? So I think that's where we're going with some of this modeling work that we've done and just trying to figure out: Okay, how quick is this going to happen? We have some of these model inputs where we can, look into the future and just see how things trickle out. Not all models are right, but some are useful and I think that type of work can be used to help inform where we're going into the future here."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"Ultimately all this information will be compiled, and there'll be some models that are built so that we can ask different questions, different scenarios that the community creates, and that the interest holders create, in terms of locations where they would rather not see the otters, or where they have shellfish values or fish values. So the intention is to create these scenarios that are place-based so that there's spatiality around Haida Gwaii, and then to run these models to have a look at the [expected] outcomes based on different management strategies."

- *Dr. Lynn Lee, Region Two*

"For the scientists, I'm going to plug monitoring early before, during, and after, and hopefully, some sort of adaptive management to allow some sort of response to unexpected changes that are popping up, like unexpected impacts to fisheries. I think it would be an interesting and exciting thing to see happen, but it would be in many ways a big experiment, and nobody, despite

all these feasibility studies, I don't think anybody really knows exactly what would happen as otters began to recolonize."

- *Dr. Casey Clark, Region Three*

"The sea otter work that we're doing now, with the project I was telling you about with the Haida Nation, is looking at building a population model based on what we know of what's happened in the central coast [of BC] and the west coast of Vancouver Island, and also Southeast Alaska. The work that we're doing in that project is really understanding what we think the implications of sea otters' return are in population growth scenarios including all the habitat variables. So building the ecological side of the models that look at how sea otter return is likely to play out on Haida Gwaii, and then, because we're at this really early stage of the otters return, it's going to take decades for them to affect all of Haida Gwaii. And so we're at this really pivotal moment of being able to address the concerns and start to think about the values that people care about, and how they might maintain those values as sea otters are returning in a way that the central coast and west coast of Vancouver Island couldn't do, because the otters were introduced, and then they weren't allowed to be hunted at all."

- *Dr. Lynn Lee, Region Two*

"What's hard about otter return is that the perceived negative effects in terms of loss of shellfish, are immediate versus the longer term recovery effects of kelp and the ecosystems, and the species that depend on kelp, like rockfish that are, and lingcod that are long-lived. And that effect is not as immediate as the negative effect. And it hasn't been nearly studied as well because of the timeframe of studies and the lack of monitoring money, and all of that that goes along with it. So there's much less actual data in terms of quantitative data to show the benefits of having kelp forest and having sea otters restore those kelp forests, as there is that loss in terms of shellfish."

- *Dr. Lynn Lee, Region Two*

"As these [otter populations] start to expand, we need to both A) get ahead of them and see the change, and B) be behind them to follow that change as well, because then you get the baseline, and then you get the other side of the spectrum. And I think we could utilize that information to be like, okay, we can expect this further up the coast as they keep marching up north. This is likely what's going to continue to happen and maybe we can use that to inform ourselves, understanding clearly that they're hitting capacity here. They're starting to expand now… Just kind of utilize that as a data collection is going to be absolutely critical here moving forward."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"So I think we're already kind of setting ourselves up for more of a sub-regional kind of stock substock management regime, and that's something we've been continuously pushing the department with here on Haida Gwaii. Certainly through herring - they've taken this whole big region approach in the past, and it's simply not working. So we're looking to go for a more

refined version. Let's manage these things on a substock scale, and I could see us going this route because we're going to have to if we're going to identify smaller areas."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"Sea otter management through hunting is resulting in ecological and environmental consequences to shellfish resources and use. So the one thing about the U.S. Fish and Wildlife management monitoring system, is that they do these aerial surveys every 10 years and they fly these transects on these planes and then they extrapolate to a large geographic area. So they're monitoring at a large geographic scale, but harvesting of sea otters is happening at a much finer scale. So there's a mismatch in how people are interacting with the ecosystem and the way that management is happening at a large scale. So there's a mismatch there…You'd want to work with the experts of these communities to design a monitoring program at a small spatial scale so that you could be more responsive to obtaining specific management outcomes or being responsive to like wow this management effort is resulting in this outcome. Maybe it's shifting too far in one direction and we want to adapt and respond promptly. So I think that mismatch and scale would be something that needs to be improved on but also leaning on the people in communities as experts."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

Supporting Financial Independence

"I really think government subsidies for hunting materials like safe-to-use rifles and bullets, of course gas for people to go out on their boats, and local tanneries so that we can process the fur that we bring home, need to be started tomorrow. What else - more assistance on helping people start up their own businesses because there are a few current businesses that are selling sea otter products, but they're very small and I can't think of any of those, maybe one or two of those the sea fur businesses, where that's their main source of income. It's always something very small, and a side supplemental income."

- *Tukshaak'éi Peele (Haida), Region One*

"In 2015 when we did interviews, he said, 'if somebody started a tannery then we would have a stronger ability to harvest the otters to work with the hides and reconnect in that spiritual way with this animal.' And he started a tannery two years later and through that tannery has facilitated a lot of healing in his community. And the way that's been exemplified is that he has taken out people in his community to learn how to harvest the otters, how to flesh the hides, and how to tan the hides. He's taught the other sewing classes. There's a regional nonprofit tribal nonprofit called Sealaska Heritage Institute that has been teaching sewing classes so that people understand how to work with these materials."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"The Elakha Alliance can plan and help different Oregon coastal tribes apply strategically for grants related to the kind of habitat monitoring and all the other work that's going to be necessary. This project is big enough that simply finding the money for a tribe or tribes to have dedicated staff related to marine mammal issues in general instead, or a few endangered species and fisheries and stream restoration projects, instead of just natural resources efforts focused on things like timber. So I guess having money so that we can hire really the right people will have good effects down the road."

- *Peter Hatch (Siletz), Region Three*

"In the 2004/2005 timeframe, the Sitka tribe got funding to start a sea otter tannery for processing the skins. People had looked at it for a long time, but a lot of the processing capacities were kind of the cheaper versions, which involved a lot of heavy metals, and there were a lot of issues of not just quality but then, hazardous waste essentially. Really good grant writers, really good support staff that finally found somebody that was working on a natural tan that is vegetable based… So we worked on that to increase the harvest, and you know it was kind of point A to Point B: Right? Well, if you just increase the harvest and you're gonna take care of the issues. But, we also thought that as soon as people realize they can make money off of it, people are just going to start doing it. And we to an extent that started to work. But then the law enforcement got involved, and we had some really really bad issues. Once the tannery got going we saw the statewide harvest going up."

- *Mike Miller (Sitka), Region One*

"Somehow they should give current artists resources to pass down their knowledge to younger people. It's not like we get all this assistance, and [passing down knowledge] just stops after all of those current artists and hunters are gone or are too old to practice those traditions. So funding for maybe a facility here in Hydaburg to be built so that we can have a space where the community can just go and learn and meet and work on all of these sea otter fur items."

- *Tukshaak'éi Peele (Haida), Region One*

"Well, one of my colleagues, her idea is this coastal conservation stamp, or a sea otter conservation stamp that is kind of modeled on the duck stamp idea from the U.S. Fish and Wildlife Service that supports waterfowl. You buy into this fund, and it supports sea otter reintroductions and ecosystem restoration. But then coming up with some kind of way of distributing the funds that are built up there, you need to come up with a mechanism to demonstrate you know if say there is a commercial shellfish fisherman who feels that they've been harmed by sea otter reintroductions that you could provide some kind of a monetary offset to them through this fund, if they can demonstrate that there's been some kind of level of harm. You know, actually trying to engage some of these fishermen in doing baseline surveys and monitoring for sea otters would be another way of alleviating some of the economic effects that might be felt in a certain area helping people potentially come up with alternative aquaculture

practices. You know, in Monterey they've got a very successful program where they cultivate abalone under the Monterey Pier. So, for the people who are concerned about not being able to have abalone, or you know whatever that or urchins red urchins that might be a possibility, you know, that could be something that the tribes could be interested in actually, is taking on that kind of aquaculture operation. We're doing some testing of various gear types for growing oysters and the Oregon Coast Aquarium and Oregon Zoo have offered to help us by using their captive otters to test these gear types, and we're going to test them by putting shellfish inside them and see if they can get in. There's different kinds of growing cages and baskets that we want to be able to provide to oyster farmers if they're concerned about otters potentially predating on their oysters; right now most of the growers in Oregon don't use anything. They just grow the oysters in the substrate, you know, so if we can reduce any potential losses of their product is one of the things that we're looking at."

- *Dr. Michele Zwartjes, Region Three*

Section Eight: References

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Section 6

All information in this section was provided by our wonderful interviewees:
Mike Miller (Sitka)
Sonia Natalie Ibarra, Ph.D., (Apache, Caxcan, Mexicana)
Tukshaak'éi Sarah Peele (Haida)
Gwiisihlgaa Dan McNeill (Haida)
Lynn Lee, Ph.D.
Casey Clark, Ph.D.
Chris Law, Ph.D.
Jessica Stocking
Michele Zwartjes, Ph.D.
Peter Hatch (Siletz)

Report Summary

"It will be a good story to be able to tell - standing on Port Orford Heads, one of the great potential habitats, we'll be able to point out and see sea otters and see a positive step that tribal folks have been involved in, along with many others, to try to restore those homelands, to bring back the abundance that they once were in."
- Peter Hatch (Siletz)

Indigenous Peoples and Otters on the Pacific Coast
Since time immemorial, Indigenous peoples have lived along the Pacific coast, developing hunting and fishing practices, creating handicrafts and tools, and nurturing relations with the land and sea (1). Although each Tribe and Nation established unique community structures, food systems, and relations with the natural world, they all had one thing in common - maintaining relationships with sea otters through complex governance and management systems for thousands of years.

Sea otters are framed as a "keystone species"[1] by Western scientists and practitioners, meaning that even just one otter can play a significant role in changing the ecosystem around them (2). Many coastal communities, however, know them by other valuable, dynamic social relationships in which humans are also an important part of the ecosystem. These relationships are especially maintained by the Indigenous peoples of the Pacific coast, as many tribal communities view otters as non-human kin, and hunted sea otters to manage shellfish stocks and create regalia for ceremonial purposes (3, 4).

Colonial Disruption
Settler colonialism violently disrupted Indigenous peoples and land, carrying out genocide, forced removal, enslavement, widespread disease, and extraction of resources. Along the Pacific coast, European settlers began to commercially hunt sea otters for the International maritime fur trade (5). This violence against humans, non-humans, lands, and waters caused the near extermination of sea otters and the critical Indigenous relationships held with them. While a few sea otter populations recovered, the majority of the historic sea otter range throughout present day Alaska and south along the coast through California remained vacant (5).

Reintroductions[2]
There are a variety of instances where state and federal government agencies in the United States and Canada have tried to reestablish sea otter populations along the Pacific coast (6). These

[1] Keystone species, as defined by the Oxford dictionary, is "a species on which other species in an ecosystem largely depend, such that if it were removed the ecosystem would change drastically."
[2] We define reintroductions as "any effort to bring sea otters back to regions they historically inhabited."

reintroductions, however, have not often been community-led and have not considered important social and cultural relationships between sea otters and people. This is especially true for Indigenous communities that have had connections to the land and the environment since time immemorial. Today, one organization is learning from these mistakes by identifying alternative best practices for sea otter reintroductions. Donald Ivy of the Coquille Indian Tribe and Dave Hatch of the Confederated Tribes of Siletz Indians co-founded the Elakha Alliance in order to honor the significant kinship felt between peoples and otters and set out to create "an Oregon coast 50 years from now where our children and grandchildren co-exist along with a thriving sea otter population and a robust and resilient marine ecosystem" (7). By centering sea otter reintroductions in Indigenous histories and practices, the Elakha Alliance creates an opportunity to reestablish the ecological roles sea otters hold on the coast, and honor the cultural and spiritual kinship between otters and people.

Defining Our Project

The three of us — Olivia, Isabel and Danny — set out to create a capstone project for our Master's degree that utilized community-centered methods to support Indigenous self-determination. Indigenous self-determination is specific to each community, however, generally it has been defined as the ability to freely identify, follow, and maintain cultural, social, and political beliefs beyond settler-colonial structures (8). We hoped to better understand research methodologies that foster relationship building and expand beyond dominant, Western scientific approaches to environmental management. When we first met with the Elakha Alliance, they had just released their Ecological Feasibility Study and were curious about how other reintroduction efforts along the Pacific coast addressed the cultural feasibility of reintroductions. Recognizing shared interests and goals, the three of us and the Elakha Alliance began a collaborative capstone partnership in early 2022.

Over the course of a couple of months, we conversed with the Elakha Alliance and developed a set of questions, methods, and deliverables that would help better understand how past, present, and future reintroductions have influenced, and could influence, Indigenous sovereignty, food systems, and customs. Our goal was to support the Elakha Alliance's mission by amplifying Indigenous perspectives from along the Pacific coast; sharing the stories of the changing relations between peoples, otters, and the coast; and offering opportunities for healing and restoration of deep cultural practices.

Some of the guiding questions we discussed include: How did sea otter reintroductions affect coastal Indigenous communities? How have these effects changed over time? What are the various management approaches for sea otter reintroductions across agencies and communities? What does a reintroduction effort that prioritizes Indigenous perspectives look like? What are the

policy processes needed for reintroduction efforts? And, what lessons from other Pacific communities can inform future reintroductions in Oregon?

A look into our methods

To answer these questions and gather recommendations for the Elakha Alliance, we conducted a literature review of academic articles as well as researched published stories about people and otters such as the Coastal Voices project (4). We also arranged ten interviews with Indigenous community members, tribal staff members, various state and federal agency managers, otter harvesters and crafters, scientists, and academics from across the Pacific coast. We analyzed our interviews to identify the major themes, ideas, and stories that were so graciously shared with us. In the analysis of our report, we present the following considerations for future reintroductions: Storytelling, Early Engagement; Relationship Building; Collaboration and Co-Management; Restoration and Revitalization; Prioritization of Indigenous Knowledge; Windows of Opportunity; Modeling and Monitoring; and Supporting Economic Independence. By highlighting these lessons from our interviews, we hope to present an opportunity for the Elakha Alliance to learn and grow alongside their partners with the communal goal of protecting and revitalizing relationships held for thousands of years.

Given the short length of our program, we relied on developing connections through existing relationships held by our community, specifically our advisors Dr. P. Joshua Griffin, Dr. Phil Levin, and Dr. Anne Beadreau, with the goal of practicing "slow research".[3] We remain committed to continuing these relations and fostering ongoing conversation and learning between our interviewees and the Elakha Alliance. We are also cognizant of the potential for overgeneralization. Many lessons and recommendations from our interviews overlapped, however, ten interviews are not representative of the full diversity of perspectives regarding sea otter reintroductions along the entire Pacific Coast. Not every recommendation, story, or experience will be applicable to efforts in other places, but there is a path to respectfully apply lessons from others' experiences. Finally, we want to note that this work is just beginning and that understanding perspectives of each community will require more attention, listening, and learning.

In the following sections, we hope to provide more context of our work and share lessons learned from our interviews.

[3] Dr. María Elena García defines slow research design as "one that begins with hunches, commitments, and relationships, but is in no rush to make arguments or propose theories. It is at the same time an indictment of settler forms of research that enact bad listening and the expression of a decolonial desire for literally hearing the Native voices that have been ignored."

- Section 2: the shifting relations between peoples and sea otters over the last few centuries,
- Section 3: reintroduction efforts and interview themes in Region 1 of our study area,
- Section 4: reintroduction efforts and interview themes in Region 2 of our study area,
- Section 5: reintroduction efforts and interview themes in Region 3 of our study area,
- Section 6: recommendations for future reintroductions,
- Section 7: concluding remarks, and
- Appendix: resources on our methodologies, literature review, positionality, and interview content.

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Tukshaak'éi Sarah Peele (Haida)
Gwiisihlgaa Dan McNeill (Haida)
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Casey Clark, Ph.D.
Chris Law, Ph.D.
Jessica Stocking
Michele Zwartjes, Ph.D.
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An Introduction to More-than-Human Relations of the Pacific Coast

The relationships between sea otters, peoples, and other species have shifted significantly over the last two centuries. Historically, sea otters lived across the West Coast of what is now North America, stretching from present day Baja California to Alaska, as well as across the Pacific Ocean in Russia and Japan (1). Researchers estimate that, prior to 1750, their abundance across this region was between 150,000 to 300,000 animals (2).

Due to their presence in most coastal ecosystems, many Indigenous peoples nurtured deep relationships with otters, considering otters as non-human kin and utilizing their pelts for various handicrafts and ceremonies. Coastal communities also shared many food sources with sea otters. As sea otters consume the equivalent of nearly 25% of their body weight in food everyday, many Indigenous communities utilized complex governance and management systems of otters through controlled hunts to balance their predation on important shellfish like clams or urchins (3, 4). Indigenous communities navigated this practice with an eye towards reciprocity, ensuring humans and non-humans alike could share where they called home.

Tsah-seets, an Ahousaht Elder from the Nuu-chah-nulth Tribal Council, has explained sea otter hunting as a respected skill where only certain people, like the chief or a hunter designated by the chief, had the privilege to harvest sea otters (5). In stories from the Confederated Tribes of Siletz Indians, Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, and Coquille Indian Tribe, sea otter robes were known as one of the most valuable things someone could possess and they were used to settle disputes, unite families in marriage pacts, and demonstrate headmans' stature (6). Tribal ancestors in this area instructed their people to "recognize sea otters as one of our respected kin, our cousins as it were, and that preserving that kinship- and all our relationships to the natural world- would help us forever enjoy the bounty and abundance that the ocean has to offer for our sustenance and our prosperity" (6). Today, Indigenous peoples continue to use sea otter pelts for regalia in ceremonies and for everyday household items like couch covers and blankets (7, 8).

Colonial Harms & Sea Otter Declines

Colonial expansion brought immense harm and violence to the peoples and non-humans present on the coast since time immemorial. Colonizers actively murdered, enslaved, displaced, brought diseases, and sought the erasure of Indigenous peoples throughout what is known as the United States and Canada today. Peoples were forcibly removed from their homes; lands and waters were reshaped by creation of new settlements; and key species of plant and animal were

extracted at high rates. The rapid, total violence against Indigenous ways of life shifted the scales of justice and continues to result in major ramifications and effects today.

In the 1800s, European settlers increased trading sea otter furs on the Pacific coast, causing disruption to many relationships between peoples, lands, waters, and non-humans. Highly sought after for their incredibly dense fur, colonists hunted 99% of the sea otter population from its original range in the 18th and 19th centuries, leaving only 13 small and isolated populations. (9) While some Indigenous peoples participated more freely in the economic exchange of the fur trade (10, 11), many peoples were forced to participate as they faced potential violence and enslavement by colonial traders if they did not comply (12, 13, 14).

Coasts Without Otters

Without sea otters, coastal ecosystems and communities suffered considerably. One of the major consequences of sea otters' absence was the decrease of kelp forests. Sea otters prey on urchins, a spiny marine invertebrate found on the seafloor. However, after the fur trade, urchin populations rapidly grew without otters and increased their consumption of kelp (15). This shift in urchin populations ultimately reshaped a crucial habitat for many coastal species (15,16, 17, 18). In addition to urchins, sea otters also consume many other invertebrates like sea cucumbers, clams, and crabs. These shellfish species also increased dramatically without otters eating them in large numbers (19, 20).

The practices and food systems of local coastal peoples changed as otters disappeared from the coast, shifting the balance of the food web. For some Indigenous communities, more abundant shellfish populations may have been a welcome increase as it supported peoples' diets and handicrafts. At the same time, however, the lack of sea otters meant Indigenous peoples could no longer harvest sea otter pelts for ceremonial or crafting uses. Additionally, it meant that they lost spiritual and cultural relations with sea otters, a relationship they had nurtured for thousands of years. The coast now looked different with the absence of a long-time resident whose appetite and character had long shaped the coastal zone around it.

Reintroducing Otters

Coastal communities felt the absence of otters for many years until the start of sea otter reintroduction efforts in the early 20th century (9). Throughout the late 1900s, the United States and Canadian governments attempted to move otters from remaining stable populations in Alaska to some of the locations they once thrived. Small amounts of otters were moved to what is present day California, Southeast Alaska, Oregon and Washington and British Columbia (9). With varying success, some populations took hold and others dissipated soon after the initial effort, but every attempt had effects on the local area and people (9).

Reintroductions at this time did not widely include the consideration of social and cultural impacts, and mostly were motivated by the opportunity to save otters from military testing areas and reestablish balanced ecosystems kept in check partly by sea otters feeding (21-24). They often lacked necessary communication and collaboration with the Indigenous and non-Indigenous peoples who lived at potential reintroduction locations. Over time, some kelp forests and shellfish populations did move towards pre-colonial relationships, but various management structures restricted local human roles in these relationships (25).

As otters rebounded, they rapidly consumed prey species like abalone, clams, sea cucumbers and other shellfish that were important food sources for Indigenous communities (26-31). While many local Indigenous peoples were prevented from selectively hunting shellfish by different government management structures, otters continued to voraciously eat shellfish (32). Meanwhile, other settler government legal structures aimed at conserving wildlife, like the Marine Mammal Protection Act, the Endangered Species Act, and Species at Risk Act, prevented Indigenous peoples from harvesting sea otters, thereby affecting their food, economic and cultural sovereignty.

The federal governments' regulations on sea otter management prevented reintroductions from revitalizing relationships that were wrongfully tattered by the fur trade and colonialism (5, 32). The benefits of reintroductions were inconsistent as they were done without consideration of how the return of sea otters would impact the food systems, livelihoods, and cultures of the coastal peoples (5, 18, 33, 34). Success, while generally noted by the mere survival of the newly introduced otter population, still needed to account for a bigger picture inclusive of the social, cultural, and personal pieces of sea otters and the coast. This approach reflects the larger need of Western conservation management to meaningfully embrace and collaborate with different disciplines, knowledges, and values to achieve more balanced, community-informed outcomes for all (35-39).

Otters and Peoples Today

Today, many locations have active, reintroduced otter populations, while other locations are experiencing the slow arrival of otters moving from these growing populations. As sea otters return to their old homes, people and sea otters are rekindling and reforming relations, while also navigating changing habitat dynamics and management structures. The returning otters provide an opportunity to restore the collective well-being of communities, as many peoples are reshaping reciprocity with sea otter kin and the lands and waters in these newly evolving relationships.

Looking Forward

For this project, our study area expanded the West Coast of North America, from what is present day California to Alaska (Figure 3). Throughout our report we will explore the current state of sea otter and human relations in these three distinct geographic regions: Region One (present day Alaska), Region Two (present day British Columbia) and Region Three (present day Washington, Oregon, and California). While Indigenous communities do not fall perfectly within any settler boundary, particularly within the boundaries of our study regions, we hope to honor the coastal Indigenous communities that have histories with the land and seas of the regions and decenter settler-colonial place names when possible. Figures 1 and 2 highlight the communities that hold these relations as represented by Native Lands Digital (40).

FIGURE 1: INDIGENOUS PEOPLES OF THE PACIFIC COAST

REGION 1

- Unangam Tanangin (Unangax̂ /Aleut)
- Alutiiq (Sugpiaq)
- Yup'ik/Cup'ik
- Dënéndeh
- Dena'ina Ełnena
- Eyak
- Lingít
- Haida
- Ląxyuubm Ts'msyen (Tsimshian)

REGION 2

- Haida
- Ląxyuubm Ts'msyen (Tsimshian)
- Kitsumkalum
- Kitselas
- Gitxaała
- Lax Kw'Alaams
- x̣à'isla ẃáwís (Haisla)
- Gitga'at Lax Yuup
- híłzaqv ẃáwís (Heiltsuk)
- Kulhulmcilh (Nuxalk)
- Wuikinuxv (Oweekeno)
- Kwakwaka'wakw Ą̱wi'nagwis
- Gwa'Sala-'Nakwaxda'
- Quatsino
- Ka:'yu:'k't'h'/Che:k'tles7et'h'
- nuučaaʔnuuɬʔatḥ nisḿa (Nuu-chah-nulth)
- Hesquiaht
- Toquaht
- ƛaʔuukʷiʔatḥ (Tla-o-qui-aht)
- Tseshaht
- Yuułuʔiłʔatḥ
- Uchucklesaht
- Huu-ay-aht
- Pacheedaht

Source: Native Land Digital

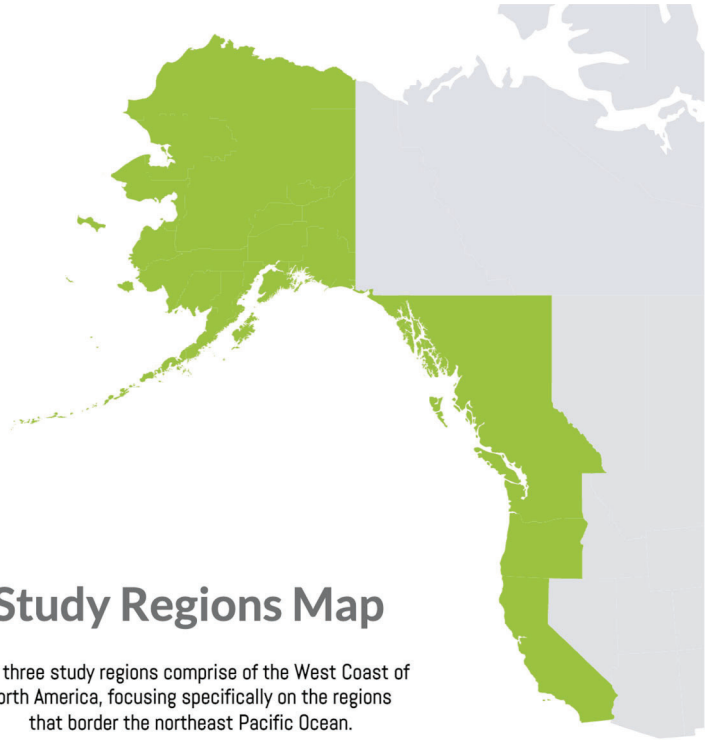
FIGURE 2: INDIGENOUS PEOPLES OF THE PACIFIC COAST

REGION 3

- Qʷidičča?a•tx̌ (Makah)
- Quileute
- ChalAt'i'lo t'sikAti (Chalat')
- Queets
- Quinault
- Sq'ʷayáiɬaqtmš (Chehalis)
- Willapa
- Chinook
- Kathlamet
- Clatsop-Nehalem Confederated Tribes
- Nehalem
- Tillamook
- Confederated Tribes of Siletz Indians
- Älsé (Alsea)
- Siuslaw
- Confederated Tribes of Grand Ronde
- Quuiich (Lower Umpqua)
- Hanis Coos
- Miluk Coos
- Tututni
- Chit-dee-ni (Chetco)
- Yurok
- Wiyot
- Mattole
- Sinkyone
- Cahto
- Yuki
- Pomo
- Kashaya
- Graton Rancheria
- Miwok
- Confederated Villages of Lisjan
- Ramaytush
- Ohlone
- Awaswas
- Ohlone
- Rumsen
- Esselen
- Salinan
- Obispeño
- Chumash
- 'Amuwu
- Nicoleño
- Tongva (Gabrieleno)
- Payómkawichum (Luiseño)
- Cupeño
- Kumeyaay/Kumiais
- Ko'lew (Kiliwa)

source: Native Land Digital

Figure 3.



Study Regions Map

The three study regions comprise of the West Coast of North America, focusing specifically on the regions that border the northeast Pacific Ocean.

Historically, each region has experienced differences not only in the eradication of otters from coastal marine ecosystems, but also in the efforts and deemed successes of reintroductions. For example, in Region 2, Haida Gwaii has not planned an otter reintroduction, however, there is spillover of otters from previous reintroduction efforts in the region. In Region 1, planned reintroduction efforts have been deemed ecological successes by scientists and the government as otter populations have reestablished along the coast. However, these previous reintroductions have also had their implications on nearby communities, impacting cultural practices, Indigenous food systems, as well as altering human and otter relationships in Alaska Native communities.

The next three sections of our report detail the current state of sea otter reintroductions in the regions we have outlined, including the limitations and benefits that intersect with the ecology, economy, culture, and management of each site. As the Elakha Alliance aims to reintroduce otters to the Oregon Coast in an ecologically and culturally responsible manner, it is imperative to prioritize Indigenous Knowledge systems by highlighting the voices of each region, letting their knowledge and expertise guide future reintroduction strategies (5, 32, 36, 38, 39, 41). Therefore, the following sections center the interviews we conducted in each of our geographic regions, and share perspectives and lessons learned that could inform future reintroduction efforts in Oregon.

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Region One: Alaska

1

Region 1 represents the homes since time immemorial of the Eyak, Lingit, Haida, Tsimshian; the peoples in the southwest region include the Yup'ik and Cup'ik Alaska Natives; and the Aleutian Islands are the home of the Alutiiq (Sugpiaq), Unangax, and other Indigenous peoples in what is present day Alaska.

Profiles of Contributors:

Mike Miller (Sitka) is a sea otter hunter and sewer, a Sitka Tribal Council member, a board member for Sealaska Heritage Institute, the Chairman of a Statewide Co-management Group, the Chairman of the Indigenous People Council of Marine Mammals, and a former member of the Alaska Scientific Review Group.

Sonia Natalie Ibarra, Ph.D., (Apache, Caxcan, Mexicana) is the Tamamta Program Postdoctoral Fellow & Program Coordinator at University of Alaska Fairbanks.

Tukshaak'éi Sarah Peele (Haida) is a mother, hunter, otter harvester, Hydaburg community member, student at University of Alaska Southeast, a teacher, birth educator and doula.

"Colonization has played such a big role in disruption. As Indigenous people, we're trying really hard to get back to a normal life, a peaceful life. And while I think the people who started sea otter reintroductions had good intentions, they didn't think outside of their colonial world. They didn't look at every aspect and every outcome that would have happened, or that could have happened, from reintroducing sea otters to a place that has lived without them for a hundred fifty - two hundred years."

- Tukshaak'éi Peele (Haida)

Overview

In the 1960s, a series of reintroductions occurred in what is now Southeast Alaska (1). Mike Miller recounts that in his childhood, he hardly saw otters despite living near a reintroduction release site. In the 1980s, however, populations began to increase near Sitka. Mike Miller remembers, "there's places that we'd see on the foggy days - you'd actually be in areas where there's not supposed to be rocks or islands, but you'd start seeing these things on the water. Just kind of amorphous shapes, and they were huge raft of otters ... that's when it really struck home to me that they probably really are taking off." As otters began to thrive, they migrated down the coast.

Both Tukshaak'éi Peele & Dr. Sonia Ibarra mentioned that, historically, there was a richly upheld understanding between otter people and human people to recognize boundaries. Indigenous communities upheld these boundaries to ensure that the local harvest of shellfish, which Indigenous people have and continue to rely on, be protected and maintained. Reintroduced otters, however, increasingly consumed shellfish populations, such as abalone, and

ecosystems shifted under their unregulated appetites. Tukshaak'éi Peele shared that when shellfish numbers heavily decreased, fisheries and Indigenous communities alike took huge hits to important harvests. Thus, food sources that coastal communities had relied on for many years while sea otters were absent decreased and disappeared in many areas.

Many of the communities that depend on shellfish and other invertebrates are known as subsistence communities, however, the connections between people and traditional shellfish expand beyond food. Dr. Sonia Ibarra describes these relationships by acknowledging how shellfish "represent a whole way of life. So when you lose a connection to these customary traditional foods such as clams, crabs, you lose a way of life, you lose a process of transmitting knowledge, you lose a connection to the sea, to the water and these resources, or more accurately these relatives…and you lose a part of yourself. There's a very popular saying that you are what you eat and that is a lesson that I've learned very clearly up here."

Enforcement and Regulations Impacts

Management organizations like the United States Fish and Wildlife Service (USFWS) monitored otter population growth, but responses from Indigenous peoples, the fisheries industry, and local government entities grew more tense.

The Marine Mammal Protection Act (MMPA) - a cornerstone U.S. environmental statute meant to limit losses and harm to marine mammal species - allows Native Alaskan peoples to continue to hunt, harvest, and craft with marine mammals (2). While harvesting otters has assisted in regaining balance in ecosystems between people, shellfish, and otters, Tukshaak'éi Peele recognizes there is a long way to go to truly achieve a more balanced ecosystem. "We still need so much support from the Alaskan Government to be able to manage our own lands effectively. Because, like I said, during colonization, so much was taken away from us. We're still learning how to exist. So here in Hydaburg there are only maybe less than ten people who go out and actively hunt. Take one or two every year. I used to be one of those hunters, but since having a baby, I haven't been able to go out and hunt anything for like two years."

Additionally, Tukshaak'éi Peele explained that Alaska Native communities are facing challenges with who is able to harvest, "Blood quantum plays a big role in those [hunting] restrictions. Even though we're not given a set number [of otters] that we're allowed to harvest, the amount of people that are allowed to harvest is very quickly dwindling. A lot of people my age can't go out because they're not one quarter native which is really frustrating." Therefore, the exemption that the MMPA allows Native Alaskan peoples to harvest marine mammals can be misleading

because of the significant implications of the blood quantum designations[1]. Dr. Sonia Ibarra expresses how these designations will impact sea otter management in other locations because, "People are not going to be able to have access or the ability to incorporate Indigenous management strategies in Oregon because of this blood quantum requirement. Folks in Canada are trying to find ways around that system and that limitation. But I think that's an important feature to highlight in the report. Is that that important part of maintaining balance is not going to be there."

Mike Miller shared that the vagueness of language in the statute allowed conservation law officers huge amounts of discretion on how to enforce unclear MMPA rules. This enforcement oppressed and continues to threaten would-be Indigenous harvesters to the point of halting their otter hunts. Those that did continue to hunt, or returned to the otter harvest after years of dedicated Indigenous organizing to rectify enforcement issues and language, were limited by the steep cost of processing otter pelts.

"I know a lot of people here in Hydaburg who absolutely hate the U.S. Government for reintroducing the otters here...The lack of management with a predator cannot be allowed to just exist without any type of management and as Indigenous people it was really hurtful. Or it feels like it was really hurtful because we were not consulted, and we have had our own successful, amazingly successful practices for ten thousand plus years. So the reintroduction has impacted Hydaburg's traditional food resources so greatly or so immensely."

- *Tukshaak'éi Peele (Haida)*

Restoring Cultural Practices

Despite ongoing colonial harm and conflict, many peoples have restored relationships with otters through harvest, handicrafts, and stewardship. The reintroductions, that started as ecological government endeavors, have been attended to by many Indigenous peoples and have proven to be an opportunity for self-determination and resurgence.

Tukshaak'éi Peele notes that otter harvesting is a necessary management approach to balance how otter populations impact other important species, but it is also much more, "[Harvesting] is one of the main ways that we, as hunters and harvesters, are able to feel connected to our ancestors." Sharing the same waters that ancestors lived on for thousands of years has been an indescribable experience for Tukshaak'éi Peele. For her it is a way to connect with her family, an opportunity to actively restore that natural balance between humans and sea otters.

[1] "A person must be one-fourth degree or more Alaska Native or be enrolled under the Alaska Native Claims Settlement Act [to harvest]" (3). This designation is problematic in erasing Indigenous identities over time. The enforcement of these requirements has led to serious limitations, harms, and fears for would-be harvesters and crafters.

In addition to otter harvests balancing populations, reintroductions have also provided an opportunity for communities to restore handicrafts that utilize pelts. Due to colonial disruptions, otter harvesting, processing of furs, and sewing pelts has been an opportunity for relearning in many communities. The ability to continue these cultural traditions has also provided healing for those that participate. One individual that has helped to facilitate much of that healing has been Scott Jackson. Dr. Sonia Ibarra shared that "Mr. Scott Jackson started a tannery and, through that tannery, has facilitated a lot of healing in his community. And the way that that's been exemplified is that he has taken out people in his community to learn how to harvest the otters, how to flesh the hides, and how to tan the hides. He's taught otter hide sewing classes. And also Sealaska Heritage Institute, along with teaching sewing, has also been teaching people what their rights are."

While opportunities for education and cultural resilience are rising in communities, there is still a need for management to be inclusive of Indigenous people and center Indigenous perspectives. Section 6 will further discuss and illuminate the ideas and recommendations of our community collaborators to ensure that future reintroductions center Indigenous management strategies and knowledge prior, during, and after the reintroduction takes place.

Acknowledgements:
We would like to thank Mike Miller, Dr. Sonia Natalie Ibarra, and Tukshaak'éi Peele for their interviews. They continue to illuminate new paths to assert Indigenous self-determination and ways of knowing in their homes, Tribal communities, and along the Pacific coast. We are grateful to share their stories of fierce refusals and cultural revitalization which is grounded in their work of sharing Indigenous knowledge and stories of otters and ecosystems.

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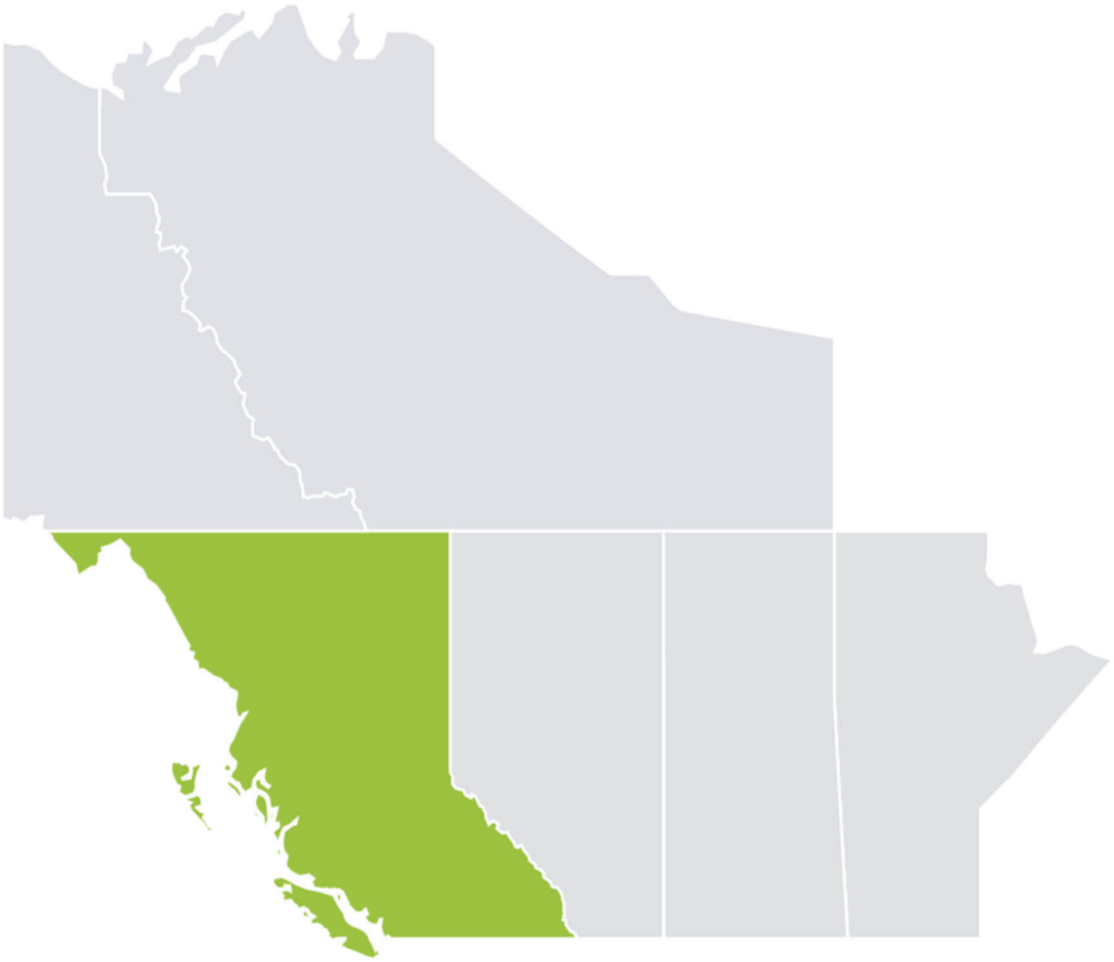
Region Two: British Columbia



2

Region 2 represents the homes since time immemorial of the Tlingit, Haida, Nisga'a, Gitksan, Haisla, Heiltsuk, Oweekeno, Kwakwaka'wakw, Nuu-chah-nulth, Coast Salish, and other Indigenous peoples in what is present day British Columbia.

Profiles of Contributors:

Gwiisihlgaa Dan McNeill (Haida) is the marine stewardship director for the Council of the Haida Nation. He also holds a seat on the Gwaii Haanas Archipelago Management Board, where representatives from the the Department of Fisheries and Oceans, Parks Canada, and Council of the Haida Nation jointly manage the Gwaii Haanas area. He is one of the co-leads for the Xaayda Gwaay.yaay Kuugaay Gwii Sdiihltl'lxa, project.

Lynn Lee, Ph.D. is a marine ecologist at Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site, and spent her PhD researching the ecological interactions between kelp, abalone, sea otters, and people throughout the coast of British Columbia.

"Certainly in the last decade or two, we're starting to see [otters] consistently on island, and we didn't bring these things here. They're naturally coming back, we've never had any interest in purposely introducing them…It could be a polarizing topic depending on who you're talking to…Within the Haida community, I wouldn't say we're that polarized, but we're recognizing the balance between loving a sea otter coat or even a pillow, and recognizing our traditional foods as well."

- *Gwiisihlgaa Dan McNeill (Haida)*

Overview

Many Haida and Nuu-chah-nulth peoples live on Haida Gwaii and what is present day Vancouver Island, two coastal areas located in Region 2. Along this coastline, sea otters, or K̲u•K̲uu in Xaad kíl (Haida language), and shellfish species like abalone and urchin played and continue to play an important role in the social and cultural practices of the coastal peoples (1).

Prior to settler contact, Haida communities struck a balance of coexisting with otters and shellfish species as they sustainably harvested sea otters for regalia, handicrafts, and other cultural purposes. When settlers arrived to the island, however, the colonial fur trade incentivized Haidas to kill more and more otters, ultimately threatening these relationships between Indigenous peoples and otters. Gwiisihlgaa McNeill spoke to the shift in stewardship practices in these locations when the colonial fur trade increased demand for otter pelts, "I think we deem ourselves as pretty good stewards on-island, but there are examples where we overdid it. This could be one of them where it wasn't necessarily people from Haida hunting these things to extinction. There was just such a value for them that we had the incentive because we had chiefs trying to raise more totem poles trying to display their wealth. So there was that incentive with competition basically to get these things to market."

The fur trade's removal of otters significantly altered interactions along the coast as kelp forest homes for many species decreased and shellfish numbers increased (2). People adjusted to this boom in shellfish populations and both Indigenous and commercial fisheries increased their reliance on these already important species (3, 4).

In the late 1960s and early 1970s, the Canadian government relocated sea otters from Alaska to what is now the west coast of Vancouver Island to prevent total sea otter loss from nuclear testing on Amchitka Island, once again shifting the ecological and cultural relations along the coastline (5). The settler Canadian government, First Nations, fisheries industry, and localities of the area, held differing interests and opinions about the return of sea otters. Similar to other otter reintroduction locations, the fisheries industry and Indigenous peoples were concerned about the impact the reintroduced sea otters may have on shellfish harvest (6, 7). Therefore, while the reintroduced otter populations in the region were considered ecological successes by scientists and government officials (8), the uncertainty and uneven acknowledgement of broader Indigenous relationships to the coast was left unaddressed.

Managing Migrating Sea Otter Populations

The current state of sea otters varies along the Region 2 coastline. The sea otter populations that were reintroduced to the west coast of present day Vancouver Island have started to migrate north and south out of the original reintroduction area. These otters are returning naturally to their historic home ranges, however, it is expected that it will take many decades for populations to reach historic levels (1). The Haida Nation and the Canadian government recognize that now is the time to consider potential impacts, gather community input, and inform development of management plans.

While it was never the intention for Haida communities to reintroduce otters, Gwiisihlgaa McNeill acknowledges that the return of otters could provide exciting opportunities to reconnect with aspects of Haida culture as their pelts are used for regalia, clothing, and art. The impacts of reintroductions elsewhere, however, have proven that otters disrupt the ecological relationships people have relied on in their absence. Therefore, a key goal of the collaborative work between the Haida Nation and the Canadian government is to restore a balance in the ecosystem so that the presence of otters does not harm the traditional foods of Haida communities.

Representatives from the Council of the Haida Nation, Parks Canada, and Fisheries and Oceans make up the Archipelago Management Board (AMB) which cooperatively manages Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site. The AMB, which Gwiisihlgaa McNeill holds a seat on, has a Haida crest of an otter holding an urchin to symbolize balance in the ecosystem. Dr. Lynn Lee shared more about this work on Haida Gwaii, "They've always recognized that the relationship with sea otters is something that

was lost and that they support coming back. But coming back in a way that also revitalizes culture and the relationships that people had with the otters and the coastal ecosystem, not just having sea otters come back without any sort of relationship or intervention in their return." Another crucial element to informing the management of sea otters on Haida Gwaii is the X̲aayda Gwaay.yaay K̲uugaay Gwii Sdiihltl'lx̲a Project. The Council of the Haida Nation and Gwaii Haanas Parks Canada initiated X̲aayda Gwaay.yaay K̲uugaay Gwii Sdiihltl'lx̲a, or *The Sea Otters Return to Haida Gwaii*, which is focused on centering community values and creating ecosystem models to help inform future directions and planning as otters migrate in from surrounding areas of the coast.

Indigenous communities have been centered during these planning sessions with emphasis on hearing community values and concerns before any decisions are made. Gwiisihlgaa McNeill and Dr. Lynn Lee highlighted the importance of holding public engagement sessions that bring experts and Indigenous communities together to share experiences and perspectives about living with sea otters. This community engagement focuses on better understanding where otters might be wanted, where they might be acceptable, and where traditional harvesters have important shellfish areas. Dr. Lynn Lee noted that she thinks "Gwaii Haanas is one of the first of its kind, in terms of cooperative management between an Indigenous nation and the government of Canada. So it has set the stage and been an example for other cooperative management work that's been done in British Columbia and Canada."

One of the benefits of these proactive planning measures is that it is occurring during a time with favorable governance structures. Haida communities have agreements in place to hold the Canadian government accountable to Indigenous rights, and these commitments are being recognized more now than ever before. Gwiisihlgaa McNeill emphasizes that "it's not perfect by any means, but it's workable, and we are working right now towards some sort of common goal amongst all the partner groups and manager partners, and all these scientists and everybody that's involved where a lot of bright minds are coming together trying to find solutions. And it's for mainly the benefit of the Indigenous people which has not been done much on our coast, so it feels good. From a Haida perspective, we like to be trailblazers. I guess you could say this is just another one where maybe we can lead the way, have that guiding light of trying to work together and find solutions together."

The confluence of Indigenous communities, scientists, partner groups, and the government working towards a common goal that will benefit Indigenous people, has been a productive space to think about future solutions. Many of these solutions are expanded upon in Section 6, where recommendations from the interviewees are synthesized for future reintroduction efforts.

Acknowledgments:
We would like to thank Gwiisihlgaa McNeill and Dr. Lynn Lee for their interviews. This section is rooted in their leadership and insight in performing work to address the social, cultural, and ecological effects of otters returning to Haida Gwaii. We are grateful to share their expertise in centering community values in these complex relationships.

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Region Three: West Coast of North America

3

Region 3 represents the homes since time immemorial of the Hoh, Makah, Quileute, Quinault, and other Indigenous peoples in what is the present day Washington coast; the Confederated Tribes of Coos, Lower Umpqua and Siuslaw, the Confederated Tribes of Grand Ronde, the Confederated Tribes of Siletz Indians, the Cow Creek Band of Umpqua Tribe of Indians, the Coquille Indian Tribe, and other Indigenous peoples in what is the present day Oregon Coast; and the Tolowa, Yurok, Wiyot, Mattole, Sinkiyone, Coast Yuki, Pomo, Coast Miwok, Costanoan, Esselen, Salinan, Chumash, Gabrileleño, Luiseño, Ipai, Tipai, and other Indigenous peoples on what is the present day California Coast. In this section we will refer to specific parts of the region using settler place names.

Profiles of Contributors:

Casey Clark, Ph.D., is the Lead Marine Mammal Researcher at the Wildlife Program at the Washington Department of Fish and Game.

Chris Law, Ph.D., is a Provost Fellow at the Department of Integrative Biology at The University of Texas at Austin. He received his doctorate degree at the University of California Santa Cruz where he researched feeding behaviors and fitness in southern sea otters.

Jessica Stocking is the Lead Marine Endangered Species Biologist at the Wildlife Program, Wildlife Diversity Division at the Washington Department of Fish and Game.

Michele Zwartjes, Ph.D., is the Supervisor of the Oregon Coast Field Office for the U.S. Fish and Wildlife Service. Michele was the primary author on the feasibility study mandated by Congress to analyze opportunities for sea otter reintroduction on the Pacific Coast.
The views expressed in this report are the personal opinion of Michele Zwartjes and do not necessarily represent the views or policies of the U.S. Fish and Wildlife Service.

Peter Hatch (Siletz) has fished, clammed, and crabbed in Lincoln County his entire life, and wants to ensure that his descendants can always do the same. He currently sits on the Elakha Alliance's Board and works in the tribe's Cultural Resources office.

"Our society, our ways of life, have undergone so many changes since the nineteenth century. We continue to rely on and uphold the abundance of a whole web of related species. It's hard to make it into an animal list and make it into a plant list, necessarily, but we wouldn't weave baskets the way we do without knowing the landscape enough to pick the hazel sticks at a certain time of year and having the right conditions up on the ridge to grow bear grass. You can't make the regalia for our dances without the availability of woodpecker scarlet and red abalone and river otters, which are all different beautiful things that come from our landscape that are a part of how we express ourselves."

- *Peter Hatch (Siletz)*

Overview

From the 1960s through the 1990s, U.S. Fish and Wildlife reintroduced sea otters to present day California, Washington, and Oregon. There have been three reintroductions in California, but only the otters reintroduced to San Nicolas Island remain today. The rest of the current sea otter population in present day California are from original remnant populations (1, 2). In contrast, all

of the sea otters in present day Washington were established through a reintroduction from 1969 to 1970 (1, 2). In present day Oregon, reintroduction efforts in 1970 to 1971 failed to establish any sea otter populations (1, 2). These events and management systems were constructed by state and federal governments with little consultation or collaboration with other groups. While there has been an increasing desire to hear what Indigenous communities think about sea otters and their reintroductions, our contributors from this region share that input has not been comprehensively gathered across the entirety of this region.

We acknowledge that there are fewer Indigenous perspectives from Region 3 and recognize that we were not able to gather more input on concerns, interests, or support for the return of sea otters throughout the region. The lack of information about reintroductions in the region is a key blindspot for our study and signals the need for practitioners to engage more meaningfully with Tribes in these areas.

Washington Reintroductions

While there is limited engagement with Tribes in Washington to understand how sea otters are impacting their practices, the Quinault, Makah, and Quileute Tribes in present day Washington have been vocal about their concerns about sea otters overeating important shellfish species like the Dungeness crab and razor clam (3). In 2022, U.S. Fish and Wildlife published a sea otter reintroduction study for the coast of present day Northern California and Oregon. Included in the report was a response letter from the President of the Quinault Indian Nation. In this letter, the President wrote -

“The reintroduction of sea otters in Washington State waters without involvement or consent of Tribal co-managers led to a population explosion from 26 otters in 1977 to over 2,300 sea otters in 2019 with a large number of those in our usual and accustomed fishing area near and around Destruction Island. This population explosion is leading to heavy predation losses that threaten the viability of Dungeness crab and razor clams, important species for commercial, cultural, and subsistence use by our communities” (3).

Dr. Michele Zwartjes heard this concern as well. She noted that when “talking to the tribes in Washington, they expressed very strongly that in the earlier reintroductions, that happened in the 1960s and 1970s, nobody had ever talked to them or consulted with them about reintroductions until they took place. They felt they have been overlooked and ignored.”

Dr. Casey Clark and Jessica Stocking shared that many of the marine conservation projects led by government agencies in the past have been done without genuine collaboration and engagement with Indigenous communities. Dr. Clark acknowledged the risk of insincere relationships and stated that, in the past, government agencies “feel like that just by listening,

they have checked off that box or completed that they've gotten input. Then they proceed with what they were intending to do already."

The sea otter population along what is known as the Olympic Coast is also subject to the strict protections of the Marine Mammal Protection Act (MMPA) (4). The President of the Quinault Indian Nation expressed further concern about how local Indigenous peoples' are unable to manage the rapidly growing populations because of regulations like these. He noted that preventing any cultural hunt of otters to "restore and maintain ecological balance" is a major limitation of these regulations that can have serious, compounding effects on humans in these ecosystems (3).

Oregon Reintroductions

Similar to Washington and California, past reintroduction efforts in present day Oregon were controlled by state government agencies alongside the United States Fish and Wildlife Service and Alaska Department of Fish and Game (2). When sea otters were reintroduced to Oregon, none of the coastal Tribes were federally recognized due to the 1954 Termination Acts of the U.S. Congress (5). Thus, Indigenous peoples were not part of the decision making process.

Peter Hatch speaks to this lack of engagement and genuine prioritization when he says, "I think Tribal folks need a place at the table... And I think that it's fairly common in these major projects that Tribes, or Tribal leadership especially, end up feeling like they're being presented or consulted on a cake that's already baked effectively."

In the last two decades, there has been another push to restore these species, and this time, largely thanks to the Elakha Alliance, a main priority is to center Indigenous perspectives and leadership. As the Elakha Alliance advocates for the reestablishment of this culturally important species, some government employees are embracing the need to center Indigenous relations with otters. Dr. Michele Zwartjes shared that understanding Indigenous relationships with otters and why otters are culturally important to them should be "at the forefront of the whole reintroduction conversation. Really understanding how we could truly restore sea otters to their place in that cultural context for the Tribes in a truly meaningful way is an important consideration."

Many people are optimistic about this move towards allyship, acknowledgement, and deferred leadership from government agencies, but their impact remains limited as long as settler-colonial structures remain. The MMPA and ESA will limit Indigenous peoples to engage in cultural harvesting of sea otters in present day Oregon. Dr. Sonia Ibarra emphasizes how this is a major point of discussion for any future reintroduction hoping to meaningfully address Indigenous peoples' use of otters. Dr. Zwartjes speaks to this issue as well, "I'll be honest, it's going to be a

little tricky, because in the MMPA there are certain parts of that law that pertain specifically to Indigenous peoples, and that give certain rights to Natives on the coast of Alaska that are not extended to Native Americans anywhere else."

When speaking with Peter Hatch, he recognized that while settlers caused significant harm to his Siletz ancestors and relatives, the deep relations and respect his people hold with and for coastal ecosystems remains. "Despite all those changes, despite the disruption to many different ecological cycles that produce the great abundance that people always talk about, the beautiful things that come from our landscape are a part of how we express ourselves and maintain cycles of abundance that we rely upon."

California Reintroductions

Reintroduction efforts in present day California started in the 1970s (2). While there were varying results, Dr. Chris Law shared that sea otters in California are primarily found along the coastline between Santa Barbara and San Mateo County as well as a reintroduced population in San Nicolas Island today. A suite of government agencies manage this population, including the U.S. Fish and Wildlife, California's Department of Fish and Wildlife, U.S. Geological Survey, and U.C. Santa Cruz, along with the Monterey Bay aquarium.

Dr. Chris Law notes that the public perception of sea otters in this area is predominantly centered around ecotourism as people enjoy kayaking and viewing otters in their natural habitat. Dr. Chris Law also shared that there was some conflict between fishermen and the sea otter populations, "there is a conception that they compete with fishermen for resources and mostly down south. There occasionally will be otters washed up dead that would have been shot and presumably it's by some fishermen that were some people that were not happy with them for whatever reason."

Indigenous perspectives of sea otters, however, remain largely unknown. In present day California, otters' feeding behaviors vary slightly compared to otter populations in other locations (6-9). Therefore, predation may impact Indigenous food systems, harvesting customs, and cultural handiwork (10).

Section 6 will further discuss recommendations from our interviews to ensure that future reintroductions prioritize engaging with Indigenous communities and centering Indigenous management strategies prior, during and after the reintroduction takes place.

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Looking Towards Future Relationships – Themes, Lessons, & Recommendations

When returning sea otters to the coast they once lived, it is necessary to understand coastal peoples' relations, livelihoods, genealogy, homes, identities, and expressions of being. Thus, practitioners must factor in all these aspects of being when planning for their return, taking care to evaluate how reintroductions are conducted, who is involved, and how they are implemented.

We started by asking our interviewees to tell us about their connections with sea otters in their personal and professional lives. We also asked what they would recommend for future reintroductions based on their relationships, activities in their communities, and lessons learned from interacting with sea otter populations. Finally, we asked them to reflect on how reintroductions can center Indigenous self-governance and what an ideal reintroduction would look like to them.

While the stories shared provoke possible paths forward and offer potential strategies for future reintroductions, there must be an acknowledgement of the specific relationships and context tied to each person, place, and story. We want to honor the totality of what each person shared with us, knowing that pulling these quotes and snippets of conversation out of context risks separating them from the whole. Doing so carefully, however, may hone in on key relationships in building a foundation for reintroductions in present day Oregon.

What follows are the major themes, ideas, and stories that were so graciously shared with us.[1] They are experiences and advice that apply to different phases of reintroduction efforts. Some focus more on relationships, while others focus more on process and governance. They are an opportunity for the Elakha Alliance to learn and grow alongside their partners. They are a chance to protect and revitalize relationships long held.

Major Themes and Recommendations Shared:

- Storytelling
- Early Engagement
- Relationship Building
- Collaboration & Co-Management
- Restoration & Revitalization
- Prioritize Indigenous Knowledge
- Windows of Opportunity
- Modeling & Monitoring
- Supporting Economic Independence

[1]We highlight a few major quotes per theme below. Please review the appendix for a more complete list of quotes that fall within the themes.

Storytelling

"A lot of the research that we're making draws connections between otter harvest and potentially some balance, but, by and large, the researchers are not willing to discuss the otter harvest. It's been driving me a little bit nuts because they don't want to talk about killing otters or anything. And so we're looking at a project for the Sitka sound study specific to retell it - the otter harvest and all the pitfalls and ups and downs of actually getting to where we did, because otherwise we're not really telling the story properly. If it's just point A to point B, people probably won't be able to replicate it… We are actually working on a NSF proposal to get that story told better with all the pieces, to give a more Indigenous perspective of point A to Point B… We're working with Tim Tinker and folks at that level, Jim Bodkin, and to actually really fully tell the story I think everybody still is realizing it hasn't been told. There's things that happened that don't fit what the old narrative was, or the old belief of what would happen. I think there's a tendency for folks to not want to admit that their projections might not have been quite spot on. But they didn't, and in there, there is a story. It's a neat time."

- *Mike Miller (Sitka), Region One*

"I think it will be a good story to be able to tell - standing on Port Orford Heads, one of the great potential habitats, we'll be able to point out and see sea otters and see a positive step that tribal folks have been involved in, along with many others, to try to restore those homelands, to bring back the abundance that they once were in."

- *Peter Hatch (Siletz), Region Three*

These stories illustrate that there is great opportunity and power in employing storytelling as a methodology for bringing sea otters back to their original homes. Mike demonstrates the need to tell the true story of what is happening in Sitka. A need to highlight the successes and failures, the lessons learned, and not simply the projections or outcomes from the scientific community. Mike noted that some of the outcomes of the reintroduction efforts do not fit into what scientists originally predicted, thus, if policy-makers, managers, and community groups only have data analytics from ecological research, the story is incomplete.

To tell a more complete narrative of the reintroduction efforts, Mike shared the goal of representing Indigenous perspectives of how they went from point A to B. By recording the voices, experiences, and struggles of the Sitka Tribal members, there is a greater chance that other Indigenous communities can learn from their efforts and create reintroduction plans with the wisdom and guidance of previous endeavors. Mike urges us to recognize the importance of telling the whole story so that future Indigenous communities can build off the momentum in Southeast Alaska and use their efforts as precedent for fighting for self-determination.

As Peter imagines a future where sea otters abundantly float in the waters off Port Orford Heads, he also sees an opportunity to tell a story of their return as well as Indigenous commitment to this reestablishment. While Mike looks back to fill in the gaps of their reintroduction story, Peter has an opportunity to craft a story of reintroductions in his homelands as they unfold. He offers an invitation for his community to be a part of this story, to tell it together, creating a space for healing, celebration, and abundance.

Both Mike and Peter establish the significance of storytelling, highlighting the need for the Elkaha Alliance to seek stories and listen to the voices of Indigenous people along the coast of Oregon throughout the reintroduction process. These interviews share how prioritizing stories can accumulate a more comprehensive understanding of the potential outcomes of reintroductions, establish ongoing community involvement, bolster Indigenous sovereignty in the management process, and support future Indigenous-led reintroductions.

Early Engagement

"A couple of things stand out in my mind - you have to build consensus with all the folks in the region who are potentially harvesting, or are being most directly impacted because otherwise it's a series of Tribal voices and there are enough nuances just from one tribe to the next…. So to me that's really a key thing is that it has to be whatever your initiative is, if it's related to natural resource, it has to keep the the most informed people the most direct contact people at the start of the initiatives, because if you try to bring them in second it doesn't fit right."

- *Mike Miller (Sitka), Region One*

"I would go to those Indigenous communities who have those respective territories and ask, What do you envision? Do you want these things here? And if you want them here, do you want us to bring them here forcefully? If these things start to come back naturally, I think we would probably have a much stronger push back than if we just started to bring the sea otter back. We could piss off a bunch of fishermen, some of our own people."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"So there's a lot of potential for really good cooperative management work, and it already has happened through the land use plan and various other agreements that are already in place, and have been in place for decades. I think overall there's much more appetite and much more willingness on the part of provincial and federal agencies to work more collaboratively with First Nations, but it doesn't mean it's easy. It doesn't mean that it always goes smoothly. Make sure that outreach [about sea otters] in the community and those discussions are happening before because then you can have those discussions about the positives and negatives, and really get those emotions out and discussed before there's actually the critter there."

- *Dr. Lynn Lee, Region Two*

"I think that one of the most important things is that whatever agency ends up pursuing this project starts consultation early and construes it broadly. There are going to be, in addition to the tribes who are represented or formally support the Elakha Alliance, there are going to be a lot of tribes up and down the neighboring Washington and California coast, for instance, who are gonna have a stake in these kinds of decisions. I think that it's fairly common for these kind of major projects that Tribes end up, or Tribal leadership especially, ends up feeling like they're being presented, or being consulted on like a cake that's already baked, effectively. And so if some of the formal outreach efforts, even with the existence of the Elakha Alliance, start early, at the most fundamental stages, then I think that's most often the recipe for success."

- *Peter Hatch (Siletz), Region Three*

There is a long history of settler-colonial institutions performing extractive, unengaged, uninformed research on Indigenous communities. Entering communities of any kind with an already formed project or management scheme risks continuing this history of harmful, uninformed work. While this unengaged approach may yield quicker actions, our interviewees shared that it risks creating projects that do not reflect what is important to the community.

We have heard from our interviewees, government employees included, that they are aware of these risks in a project that does not authentically engage the people it affects. They also shared awareness of how tough it will be to thoroughly involve everyone early on, but that it is still necessary and worthwhile to ask and listen to what the community cares about. Projects can be crafted to address the concerns and values of the community from the beginning.

Many people have a stake in a project as broad reaching as a sea otter reintroduction. It may impact many different jobs, family and community traditions, and beliefs. It is full of different emotions, livelihoods, and ways of life. All of our interviews emphasized ensuring everyone, especially Indigenous peoples, have the opportunity early in the process to share their positions and help craft the direction forward together, knowing that it may create a well-rounded, successful project on all fronts.

Relationship Building

"Building those relationships and taking the time to do that is really probably the most critical thing that can be done."

- *Dr. Lynn Lee, Region Two*

"There is importance in authentic relationships with the communities that you're working in. I think a lot of researchers who are younger and starting to come into communities are also recognizing that. I think that moving forward with people who are looking at reintroducing sea otters, they need to do years and years of work of building trust with the community that they're going to be altering because it's such a significant alteration. If they don't talk to the people that are going to be directly affected, they won't know the possible negative outcomes. They could be really educated on all of the great things, like more kelp, but what other things could possibly happen? How are we possibly causing harm to hundreds, if not like thousands of people? So really that authentic connection and ongoing consistent communication. And not just looking at community members as just another regular person, or a lay person, they are experts in their own ways. And I think people who will be heading up those sea otter reintroductions need to understand that you don't have to have a Ph. D to know what you're talking about."

- *Tukshaak'éi Peele (Haida), Region One*

"My point is that we stand on the shoulders of other kinds of Tribal leaders who have done a lot to build programs and build trust. And not these kinds of adversarial relationships with the Feds and the State as it used to exist."

- *Peter Hatch (Siletz), Region Three*

The tendency for large scientific or government projects to practice colonial science[2] is not uncommon. Our interviewees spoke frequently about Western institutions and actors entering communities without forming relationships and extracting information without understanding the cultural practices and livelihoods that may be impacted. This research approach is resoundingly condemned by the people we interviewed. Many of our interviewees agreed that meaningfully investing in relationships can provide a necessary foundation for early, authentic engagement.

More than simply being present in a community early in a project, building relationships can be time intensive, especially when confronting centuries of distrust and violent and extractive

[2] Where researchers exercise unequal power dynamics to extract data and information to achieve their own goals, without acknowledging local knowledge and values, building relationships, collaborating, or giving back to communities in meaningful ways, oftentimes never sharing results or outcomes of the research with communities.

research methodologies between Indigenous peoples and settlers. Indigenous and non-Indigenous interviewees alike broadly acknowledged that poorly built trust, ignored relationships, and disingenuous engagement hindered the efficacy and justice in projects and communities.

Building relationships is regarded as a pivotal step to reintroducing sea otters. Nurturing these relations from the start of a project helps center lived experience in both Indigenous and non-Indigenous communities as well as reestablish trust between everyone involved. The efforts shared in some locations, such as in Region One (present-day Alaska), were not easy, but people persisted in authentic relationship building and in doing so, better supported coastal ecosystems and peoples.

Collaboration & Co-management

"I think one of the most important things is that they [communities] have a seat at the decision making table. So that power and responsibility does not only lie within the agency that is managing the sea otters."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"So for the progress I've made, it's always happened through building a consensus with groups, and some of it is not fun, you have to really stick your neck out sometimes. But definitely have a clear vision of where you need to get and be willing to correct when you make mistakes, because the progress we've made is littered with all kinds of wrong assumptions. And so you just have to keep grinding away."

- *Mike Miller (Sitka), Region One*

"I think that in general, there's an intention to have increasingly improving, respectful, and good interactions with our co-managers. I definitely don't want to claim that we're getting it right across the board at this present moment, always room to improve."

- *Dr. Casey Clark, Region Three*

"I think Gwaii Haanas is one of the first of its kind in terms of cooperative management between an Indigenous Nation and the Government of Canada. So it has set the stage and been an example for many other cooperative management work that's been done in British Columbia and Canada."

- *Dr. Lynn Lee, Region Two*

The basis of a sea otter reintroduction in any location involves different levels of governments, various community groups, food systems, industries, recreation, and personal and cultural beliefs. Each factor is tied to different groups and peoples which creates a difficult path to ensuring everyone's priorities are acknowledged and protected. Collaboration was discussed as a necessary component for sea otter reintroductions to work effectively given the complexity of many groups and interests.

Predicated on the relationship building and authentic engagement discussed earlier, interviewees shared how working together between entities, Tribes, and communities has been successful. Collaboration built with respect and trust has allowed new approaches to complex management schemes and projects. While not an easy path, interviewees believe working to reach an early consensus among groups is the only true way to start reintroduction efforts.

Co-management is a prevalent term with layered meaning depending on context and location. For some, it is a legally protected right for Indigenous decision making, while for others it is based on an agreement to acknowledge and share decision making efforts. Navigating these differences between groups may be difficult, but every interviewee noted doing so early in the process and establishing a way to work together, is a critical component of a successful reintroduction.

Restoration & Revitalization

"I think it is one of the main ways that we, as hunters and harvesters, are able to feel connected to our ancestors. Just going out on the same waters that they have lived on for thousands of years is just so amazing. My family has been in this exact spot, even though I didn't know them, you can describe the feeling of knowing. And we've lost so much, but we haven't lost this experience. So being able to be an active member of trying to restore that natural balance between sea otters and humans is so amazing, the feeling is not describable at all."

- *Tukshaak'éi Peele (Haida), Region One*

"I hope that the restoration of different kinds of traditional harvest can someday be a tool in our overall human toolkit to benefit the ecosystem by maintaining or re-establishing traditional management practices for the species."

- *Peter Hatch (Siletz), Region Three*

"I think the most important thing from the ecological perspective is actually looking beyond just the sea otter as an individual species or the sea otter and its keystone species role, and beyond that in its function in the whole ecosystem and putting it in the context of climate resilience. Sea otters are wonderful, and people like to see them because they're cute, but that to me kind of pales in terms of comparison to their ecological role. All of the benefits that we could see in terms of increased diversity and enhanced ecosystems and the ability of both the species and the ecosystem to respond to climate change and all the ecosystem services that they can provide to people. So I think that very large ecosystem context is the most important thing."

- *Dr. Michele Zwartjes, Region Three*

"They've [First Nations in Canada] always recognized that the relationship with sea otters is something that was lost [in recent times], and that they support it coming back. But coming back in a way that also revitalizes culture and the relationships that people had with the otters and the coastal ecosystem, not just having sea others come back without any sort of relationship or intervention in their return."

- *Dr. Lynn Lee, Region Two*

There are numerous social, cultural, and ecological implications in returning sea otters to the coasts where they once lived. The stories shared here touch on how sea otters impact a great number of species. They foster abundance and intricacy in kelp forests and seagrass beds, which can lead to carbon sequestration, storm protection, habitat enhancement, and renewed relationships.

There was also a key connection expressed between these environmental benefits and the roles that human and non-human kin fill in the interwoven functions of lands and waters. We heard stories where otters are connected to the return of Indigenous practices of harvesting, crafting, and stewardship that assist in revitalizing cultural traditions.

Interviewees share eagerness and wariness at these prospects to restore or revitalize connections. Contributors expressed apprehension towards how other reintroductions have placed the ecological and Western scientific aims ahead of the social and cultural values of coastal communities. A common story here is the decline in shellfish when otters begin to reestablish populations. There is potential for intense harm under a strict emphasis of ecological benefits if otters disrupt the many ways of life tied to shellfish. Despite this, interviewees were excited to pursue reintroductions that rebuke this approach and readily address the totality of ways of life on the coast.

Prioritize Indigenous Knowledge

"I think there's a need to work together with Tribes to return management to them. They have a much longer history of managing sea otters and being in relationship with sea otters. During my dissertation presentation, I showed this diagram where it shows thousands of years that people have been managing sea otters and been in relationship with sea otters compared to the very recent history of Western management that began in the late 1960s. I think that there's a need to work closely with Tribes to understand how different management strategies would result in the outcomes that communities are interested in."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"Most of the scientists that are kelp lovers are like the more sea otters the better. But as Indigenous people, we know that more predators is not always better because there's only so much food and so many resources to go around. I haven't heard too many stories when sea otters were not present, but I know a lot of stories that have been passed down about sea otters and the mutual understanding that they have their own space, they have their own villages, and we have ours."

- *Tukshaak'éi Peele (Haida), Region One*

"We give updates on what we've learned, or where things are at with the species, and it generates that little bit of discussion within the community. Right now we're trying to do a forum in March where we're trying to get that feedback asking - Oh, you're a traditional harvester, where would you like to see otters? If you don't include Indigenous people right from the get go, then, good luck because you're going to hear from them. And the voices are getting louder these days."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"I started to understand that research is extractive and it has a history of being extractive unless you create products that are meaningful to the communities you intend to serve. Taking data is still taking and that's a form of colonialism. I started to question how as an Indigenous person, I was promoting these ideologies as I was also working on reconnecting with my ancestors and questioning how colonialism had influenced my view in the world and my education and training. So being in community and hearing these stories of extraction that are still happening today, I realize this is not a past thing, this continues in research."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

As heard from our interviewees, Indigenous peoples have held relations with and managed sea otters for tens of thousands of years. In contrast, Western practitioners and government officials have only managed sea otters for the last six decades. Since time immemorial, Indigenous

communities observed, respected, and learned how to exist with the sea otters. Tukshaak'éi speaks about this process, highlighting the knowledge her community holds about sea otters. She speaks of the long history collecting and passing down knowledge of these coastal ecosystems, and illustrates how embracing this local expertise can be applied to sea otter reintroductions.

Gwiisihlgaa demonstrates how practitioners can engage Indigenous communities and apply Indigenous knowledge to the management process. Organizing community forums creates an opportunity for this knowledge and presents feedback to be shared in collaborative, respectful ways. Gwiisihlgaa highlights that Indigenous involvement and voices will only become more prevalent in governance decisions as Indigenous communities continue to demand sovereignty over their rightful land and seas. Many of these stories share how it is crucial to create spaces that lead to authentic prioritization of Indigenous priorities and knowledge.

In contrast, Dr. Sonia Ibarra shares potential harms of continuing extractive research. She shares personal struggles of engaging in research that upholds colonial norms and promotes ideologies Western approaches to scientific research and environmental regulation. She offers that one way practitioners can refute colonial Western frameworks of environmental management is by creating products, policies, or programs that are meaningful to the communities they serve. These shared stories show how decision makers may engage Indigenous and coastal communities from the beginning of any reintroduction efforts by incorporating Indigenous knowledge and goals into management proposals.

Windows of Opportunity

"You wait for windows and when one of the pieces is aligned, then you try to move really quick. Who knows when it is, with such a screwed up Congress and country at this point, we don't know who's going to be in place. But right now we've got some of the pieces with some people meeting on both sides of the aisle where maybe there's enough support to do this."

- *Mike Miller (Sitka), Region One*

"We got a favorable government in terms of being an Indigenous person right now. Marine conservation is a priority with 20 by 25 marine protection and 30 by 30 initiatives. They throw around 'reconciliation,' and all these fancy 'Let's play nice' words where, not too long ago, not even like a decade ago, we had a very strong, right-wing conservative government. We're getting turned off and they were walking away from tables and it was almost like they're slapping us in the face. Where right now we have a bit more of a favorable government. So I guess my point I'm trying to make is that we're trying to strike while the iron is hot, because the pendulum can swing next election cycle and then we're just back to being like, 'Well we gotta wait for whatever years until X, Y and Z happens'. Right now it's not perfect by any means, but it's workable. Right now we are working towards some sort of common goal amongst all the partner groups and manager partners and all these scientists and everybody that's involved where a lot of bright minds are coming together trying to find solutions. And it's mainly for the benefit of the Indigenous people which has not been done much on our coast. From a Haida perspective we like to be trailblazers, so this is just another one where maybe we can lead the way, and have that guiding light of trying to work together and find solutions together."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"We have this window to be able to really seriously think about people managing an ecosystem and restoring cultural practices and ecological values. The work that we're doing is trying to understand where those values are that the communities have, where the important shellfish harvesting areas are that they would like to try and maintain even as otters come back in. So some sort of spatial management. And then in that spatial management, looking at how you can also promote cultural restoration in that relationship between sea otters and people and rebuilding that, too."

- *Dr. Lynn Lee, Region Two*

In sea otter reintroductions, there are advantageous moments when policy opportunities, willing decision-makers, available resources, and community interests align. Oftentimes this alignment occurs in response to dedicated, genuine engagement and relationship building at local, state and

even federal levels. Interviewees broadly call for taking advantage of these ‘windows of opportunity’.

There are many factors involved in these systems and some interviewees discuss the patience required waiting for these opportune moments of action. These moments ranged from shifts in political parties in office, availability of funding, changing public opinions, and different groups’ willingness to work together. Government staff members and Indigenous peoples alike urged the need to act fast when these opportunities arise. These windows may be few and far between, but when things align, they urge working together because windows often close.

Many of the interviews focused on how windows for collaboration between Indigenous peoples and settler governments have increased. This is a time when people truly embrace both Indigenous ways of knowing and Western science to address the complexity of sea otters, peoples, and coasts. Some of our regions are in this window right now and are using stronger relationships and increased support for Indigenous leadership to create expansive, community-informed otter management. Windows of opportunity are not described as perfect, but are a chance to create new systems and relationships that will maintain a foundation for more adaptable, inclusive efforts to address sea otter returns.

Modeling and Monitoring Reintroductions

"We're recognizing the balance between a 'Yes, I'd love some furs' and maintaining our traditional foods. We're starting to ask ourselves now, if these things do keep coming back, when and where do we want them? Where are they acceptable? So I think that's where we're going with some of this modeling work that we've done and just trying to figure out: Okay, how quick is this going to happen? We have some of these model inputs where we can, look into the future and just see how things trickle out. Not all models are right, but some are useful and I think that type of work can be used to help inform where we're going into the future here."

- *Gwiisihlgaa McNeill (Haida), Region Two*

"Ultimately all this information will be compiled, and there'll be some models that are built so that we can ask different questions, different scenarios that the community creates, and that the interest holders create, in terms of locations where they would rather not see the otters, or where they have shellfish values or fish values. So the intention is to create these scenarios that are place-based so that there's spatiality around Haida Gwaii, and then to run these models to have a look at the [expected] outcomes based on different management strategies."

- *Dr. Lynn Lee, Region Two*

"For the scientists, I'm going to plug monitoring early before, during, and after, and hopefully, some sort of adaptive management to allow some sort of response to unexpected changes that are popping up, like unexpected impacts to fisheries. I think it would be an interesting and exciting thing to see happen, but it would be in many ways a big experiment, and nobody, despite all these feasibility studies, I don't think anybody really knows exactly what would happen as otters began to recolonize."

- *Dr. Casey Clark, Region Three*

Representatives from the Haida Nation and Canadian government agencies are co-developing modeling scenarios with a project team composed of various community members. During the interviews, Gwiisihlgaa McNeill and Dr. Lynn Lee provided useful tools for incorporating place-based modeling and monitoring into sea otter reintroduction planning. They prioritize asking Haidas in the community what their visions are for different reintroduction scenarios and then incorporate these viewpoints with the ecological feasibility of reintroductions in particular locations. Gwiisihlgaa McNeill highlights some viewpoints of Haida community members, demonstrating how these reintroductions could provide furs for handicrafts while also recognizing that reintroductions may affect their traditional foods.

While the Haida Gwaii modeling framework is a planning process at the very beginning of sea otter return, Casey advocates for thorough monitoring should reintroductions occur. Casey notes that despite feasibility studies and modeling scenarios, there are still unknowns about how the sea otters will alter the landscape and various relationships people hold with coastal species. Therefore, Casey encourages monitoring throughout the reintroduction process and an adaptive management plan that would allow coastal communities to alter policies and regulations of the reintroduction effort.

As heard in our interviews, employing place-specific modeling and monitoring is a useful way to incorporate local knowledge and priorities, as well as mitigate generalizations from reintroduction suggestions at large.

Supporting Financial Independence

"I really think government subsidies for hunting materials like safe-to-use rifles and bullets, of course gas for people to go out on their boats, and local tanneries so that we can process the fur that we bring home, need to be started tomorrow. What else - more assistance on helping people start up their own businesses because there are a few current businesses that are selling sea otter products, but they're very small and I can't think of any of those, maybe one or two of those the sea fur businesses, where that's their main source of income. It's always something very small, and a side supplemental income."

- *Tukshaak'éi Peele (Haida), Region One*

"In 2015 when we did interviews, he said, 'if somebody started a tannery then we would have a stronger ability to harvest the otters to work with the hides and reconnect in that spiritual way with this animal.' And he started a tannery two years later and through that tannery has facilitated a lot of healing in his community. And the way that's been exemplified is that he has taken out people in his community to learn how to harvest the otters, how to flesh the hides, and how to tan the hides. He's taught the other sewing classes. There's a regional nonprofit tribal nonprofit called Sealaska Heritage Institute that has been teaching sewing classes so that people understand how to work with these materials."

- *Dr. Sonia Natalie Ibarra (Apache, Caxcan, Mexicana), Region One*

"The Elakha Alliance can plan and help different Oregon coastal tribes apply strategically for grants related to the kind of habitat monitoring and all the other work that's going to be necessary. This project is big enough that simply finding the money for a tribe or tribes to have dedicated staff related to marine mammal issues in general instead, or a few endangered species and fisheries and stream restoration projects, instead of just natural resources efforts focused on things like timber. So I guess having money so that we can hire really the right people will have good effects down the road."

- *Peter Hatch (Siletz), Region Three*

Many interviewees spoke to the necessity of economic support in Indigenous communities in order for them to more fully control impacts of sea otter reintroductions. There are a number of different avenues shared where financial support would have allowed communities to assert more self-determination in a reintroduction. Contributors shared some vital cultural activities that require significant investment to relearn. Things like handicrafts and working with otter pelts require access not only to materials and facilities for their processing, but also require the sharing of skills and knowledge. Indigenous people hoping to reestablish these practices, identified great

opportunities in financially supporting harvesting pelts, tanning hides and creating traditional otter crafts.

Additionally, key funds could be used to staff Tribal positions to help directly monitor and manage any newly reintroduced otters. This was shared as a path to ensuring co-managed otter populations were a reality, not just a proposal. Financial independence is a tool shared that can solidify Indigenous leadership in a sea otter reintroduction and ensure community values are reflected in their management.

Concluding Remarks

"Former Coquille Tribal Chief and former Elakha Alliance Board Member, Don Ivy was fond of saying, that 'when the tide is out the table is set.' Which is to say that there are a vast number of good things that you can get from the intertidal zone, the clamming and crabbing and mussels. I have to admit that our folks used to gather more goose necks and that I don't really know how to gather, or I don't know who does that much of that in current practice. But clams, mussels, crabs, and many other kinds of shellfish, especially back in the day, are still very important to tribal families living along the coast.

I think that for all kinds of different generations of my family - for my dad growing up as a military brat, living all around the country - going back to visit his grandparents on the Siuslaw River and clam, and crab, and fish in Florence was one of the first ways he found to express his sense of Indigeneity and ties to Oregon. So that's how he developed his love for this place. It was very much the same for me when my grandfather retired he went and lived in Newport. So on both a very practical feeding the family level, and in a way of expressing connection to this place by going and harvesting some good food, that was really fundamental to the way my family was brought up in a way that I hope to raise my son."

- *Peter Hatch (Siletz)*

Many of our contributors spoke about the meaning of harvest for various Indigenous peoples. Here, Peter's words beautifully illustrate the deep importance of shellfish in his family and community. They also highlight the significant harm that could arise should shellfish numbers be reduced. When stories like this aren't prioritized in decision making, scientific practitioners, government officials, and local policy makers risk instituting environmental management plans that perpetuate colonial harm and sever relationships between human and non-human kin. Past reintroductions that failed to include Indigenous and other coastal perspectives stand as examples of this risk.

The ideas shared throughout the report complicate the typical narrative surrounding sea otter reintroductions and demonstrate the critical need to engage with Indigenous communities, to understand each community and Tribes' priorities and needs. A successful sea otter reintroduction will not be achieved by addressing just one challenge, theme, or lesson. Rather, decision makers and community groups must collectively work to identify the specific challenges in the community and create strategies to reestablish human and non-human relations.

The Elakha Alliance is positioned to establish, demonstrate, and honor authentic engagement and collaboration with Indigenous communities as they evaluate potential sea otter reintroductions. By asking questions and seeking wisdom from Indigenous leaders, practitioners, and peoples in

other coastal communities, they are laying the foundation for Indigenous sovereignty and community values to lead potential reintroductions. Relationships built and knowledges shared with Indigenous communities can direct not only what decisions are made, but also who is making the decisions and how.

The results of the Alliance's efforts are still unknown, however, in the end, Peter imagines a future where shellfish, otters, and people are in steady relations once more. While he shares that harvesting shellfish was a fundamental family practice and a foundational way of expressing indigeneity, he also envisions a coastline where sea otters are a member of the community. "I would hope that once there's a self-sustaining population of sea otters, that they will reach a threshold where they could take care of themselves and slowly expand their range, fill out that gap, and re-establish some kind of gene flow between the new Oregon otters and the California otters. In an imperfect way, to replicate that system that had always been in place for us."

Sea otter return is about much more than ecology, it's about the fullness and complexity of life. These stories share grief and joy, risks and opportunities, in re-establishing relationships along the coast. We are deeply grateful to know these stories and people and hope their wisdom resonates with many. Through them, there is a way towards restoring abundance for peoples and families, both human and non-human, while protecting the relationships still held by many.