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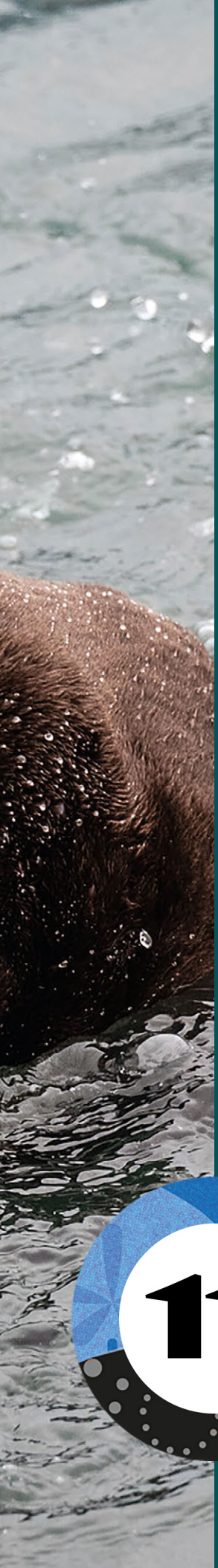

Chapter 11

STAKEHOLDER CONCERNS AND PERSPECTIVES

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The potential return of sea otters (*Enhydra lutris*) to the Oregon coast, either through natural range expansion or through translocation, is viewed favorably by many people. Positive views of sea otter recovery in Oregon are based on several factors, including the potential for restoring the connectivity of existing sea otter populations between California and Washington and the functional restoration of coastal ecosystems in nearshore areas of the Oregon coast. Sea otters are considered a keystone species (Estes and Palmisano 1974) whose presence as functioning components in nearshore ecosystems has a number of important ecological effects (Estes et al. 2004), such as increasing the stability and productivity of kelp forests and eelgrass beds and enhancing the abundance of nearshore fish species like rockfish and salmon and various invertebrates, even abalone, that use these kelp and eelgrass habitats (refer to Chapter 5 for a full discussion of the ecological effects of sea otter recovery). This well-studied trophic cascade is often considered a conservation success story for those supportive of returning this keystone species to marine ecosystems (Estes 2015).

However, sea otter recovery has not been viewed favorably by everyone in places where it has occurred: Their return to regions from which they had been extirpated a century earlier has, in some cases, led to conflicts with commercial and subsistence fisheries in areas where sea otters compete with humans for commercially valuable invertebrates like crabs, clams, urchins, and sea cucumbers (Wendell 1994, Larson et al. 2013, Carswell et al. 2015). Weighing the relative costs and benefits of sea otter recovery is challenging, and in addition to economic considerations, there are also nonmonetary social values that must be considered (see Chapter 7). A recent economic analysis of the impacts of sea otter recovery in British Columbia, Canada (Gregr et al. 2020) illustrated some of the challenges of this accounting task. Gregr et al. (2020) found that the benefits of sea otter recovery to Vancouver Island included 37% more total ecosystem biomass annually with associated increases in the value of finfish landed (> CAN 9.4 million), carbon sequestration (> CAN 2.2 million), and ecotourism (> CAN 42.0 million), which all combined to offset an associated estimated economic loss to invertebrate fisheries (< CAN 7.3 million). Nevertheless, these economic considerations fail to address other equally important issues, such as social impacts on the communities that support (and are supported by) those invertebrate fisheries and the challenges to food security and self-governance of the First Nations communities in the areas in Canada that are affected (Salomon et al. 2015, Burt et al. 2020).

Inevitably, some would gain and some would lose economically from sea otter recovery in Oregon, but those gains and losses are unlikely to be distributed equally or evenly. And while it is important to consider the loss of income and revenue associated with impacts on nearshore fisheries, it is also important to recognize and address nonmonetary costs to people's livelihoods, lifestyles, and futures. Given these challenges, it is extremely important that decisions about sea otter reintroduction efforts fully consider all stakeholder and title-holder opinions, both posi-

tive and negative. Doing so can help foster consensus and stakeholder engagement in decisions and plans, as well as more effective management after the fact.

Sea otters have been absent from Oregon for over 100 years, and current coastal human institutions and practices (e.g., fisheries, recreation, resource management) have developed during that time. It is likely that some of these activities will be affected by the return of sea otters; however, predicting how different members of coastal communities will respond to these impacts is challenging. One approach is to look to and learn from other regions where sea otters have recovered, either through "natural" growth and expansion of remnant populations or via successful reintroductions, and where the resulting sea otter populations are now interacting both positively and negatively with people. While every region is different, and while the return of sea otters to Oregon will likely involve some unique costs and benefits, some commonalities exist in the types of concerns and human responses that have been raised in previous examples of sea otter recovery. A review of some of these perspectives may be informative.

One of the most successful reintroductions of sea otters (from the perspective of sea otter conservation) occurred in the late 1960s in Southeast (SE) Alaska (Jameson et al. 1982). Over 450 animals were distributed among seven translocation sites (see Chapter 2 for details), leading to a rapid rate of increase in both abundance and distribution (Esslinger and Bodkin 2009) such that the total abundance at the time of the last comprehensive surveys (2010–2012) was more than 25,000 and is likely now closer to 40,000 given a 5%–10% estimated annual increase rate (Tinker et al. 2019, Eisaguirre et al. 2021). Based on the wide range of social and economic concerns about the impacts of sea otter recovery on commercial activities and local communities in SE Alaska, the U.S. Fish and Wildlife Service (USFWS) convened a workshop in November 2019 at which a diverse set of stakeholders were invited to share knowledge, express concerns, and begin to develop a proposed set of approaches for addressing key challenges associated with sea otter recovery and its impacts.[1] A final report from that meeting has also been released ("Southeast Sea Otter Stakeholder Meeting," USFWS Report MMM 2020-01). Below, we highlight some key points from the meeting and report, illustrating the range of stakeholder concerns regarding the impacts of the return of sea otters to SE Alaska.

STAKEHOLDER VIEWS IN SOUTHEAST ALASKA (2019)

Subsistence Harvest of Sea Otters

Sea otter harvest has been an important component of Indigenous communities' cultural practices for thousands of years. Under the exception of the Marine Mammal Protection Act (MMPA), specified in 50 CFR 18.23 of the Code of Federal Regulations, Alaskan Natives are allowed to continue to harvest sea otters for their pelts and the creation of handicrafts. This exception is most clearly enacted in SE Alaska, where the expansion of sea otters across the region has created economic opportunities for individuals involved in harvesting sea otters, tanning the hides, and modifying the hides for artistic purposes and the sale of handicrafts.

However, there is inequity in these opportunities as many Alaska Native community members lack the training, access to a boat, and equipment to harvest sea otters. First, for those who do have access, the blood quantum policy is a concern, including whether non-Native individuals can be on harvest vessels and whether Alaska Native individuals from communities outside of SE Alaska are eligible. Second, some community members lack training in sea otter hide preparation, skin sewing, and artistic modifications of the hides. Third, there are concerns over access to markets for selling handicrafts to tourists. And finally, concerns exist about misperceptions by the public about the legality and ethical/historical underpinnings of the subsistence harvest of sea otters.

While subsistence harvest considerations are unlikely to be immediately and directly relevant for an Oregon sea otter reintroduction, they do indirectly raise issues of local governance and different perceptions about how sea otters and

1 Learn about the Southeast Sea Otter Stakeholder Meeting, held on November 6, 2019, in Juneau, Alaska, at https://www.seaotterstakeholders.com/. Among other things, the meeting agenda, presentation slides, and a video of the meeting are available from this website.

humans can and should interact, as well as differing cultural practices and traditions associated with sea otters. It is clear from the SE Alaska example that local communities, including Indigenous communities, should have significant involvement in decisions about sea otter reintroduction and recovery.

Conflicts With Subsistence and Commercial Shellfish Fisheries

For Alaska Native communities, traditional harvest practices often included localized harvest of sea otters to alleviate predation pressure on shellfish by sea otters, which in turn, could increase the availability of shellfish for harvest. Shellfish collection continues to be an important component of Alaska Native community cultural practices and an important component of food security for many communities, but the situation since sea otter reintroduction and range expansion has become complicated, with additional legal considerations and stakeholder interests.

Modern commercial shellfisheries emerged in SE Alaska during an "abnormal" historical period when sea otters were entirely absent. Without sea otter predation, certain shellfish populations thrived and allowed productive fisheries to develop based on these species. Since the successful reintroduction of sea otters, their abundance has increased, and their range has expanded, putting sea otters into direct conflict with these commercial fisheries. As sea otters have increased, the productivity of many shellfish fisheries has declined, causing some fisheries to become unprofitable and even close.

To further complicate the problem, sea otters are currently managed at the regional stock level (all of SE Alaska), but their impacts are apparent at a much smaller, localized scale. For this reason, subsistence and commercial fishery stakeholders expressed interest (at the 2019 stakeholder meeting in Juneau) in exploring ideas for more local spatial management of sea otters in a coordinated manner. This type of management could potentially be accomplished if Alaskan Native subsistence harvests were focused locally to protect the subsistence harvest of fisheries. However, it was also recognized that such local harvests would likely be infeasible at a larger scale sufficient to protect many commercial fisheries.

Sea Otter Population Ecology and Ecosystem Status

The USFWS is responsible under the MMPA for collecting data on sea otter population size, distribution, and trends. These population surveys are to be carried out regularly and use standardized and reliable methods to accurately document population trends. Stakeholders at the 2019 meeting in Juneau requested further clarification on how values for Optimum Sustainable Population, carrying capacity, and Maximum Net Productivity Level are estimated. These terms are used within the MMPA and are therefore a critical component of how sea otters and their ecosystems are managed. Additional information on the abundance and distribution of shellfish as prey for sea otters and suitable habitat are also important for understanding how the ecosystem affects and is affected by sea otters.

This ecological information is challenging to collect at appropriate scales, and monitoring changes over time is even more challenging. Stakeholders expressed interest in future research and monitoring efforts to provide current estimates of sea otter population size and distribution and the dynamics among sea otters, shellfish, and nearshore habitats. In addition, Alaska Native community representatives expressed their interest in facilitating the collection of Traditional Ecological Knowledge to better understand how sea otters and associated ecosystems have changed through time.

All stakeholder groups present at the meeting recognized the important ecological role sea otters play in the ecosystem. Sea otters have experienced drastic changes over the past few hundred years, in which they went from being locally abundant to entirely absent in the early 20th century and on to their current status of recovery and range expansion into former habitats. There are differing perspectives on how this ecosystem should function in the future and how "balance" can be achieved between sea otters and people in a way that all stakeholders accept.

STAKEHOLDER VIEWS IN OREGON

People in Oregon are now beginning to explore what it may look like to have a viable sea otter population once again. Reintroductions of carnivores are typically controversial, including past reintroductions of wolves and grizzly bears. Sea otter reintroductions have also caused conflict with other ocean users in California, British Columbia, and Alaska (Carswell et al. 2015). Experiences in SE Alaska and British Columbia (Burt et al. 2020) have suggested that it is important that all concerned stakeholders be engaged early in the process before any management decisions about reintroduction.

Stakeholder interests specific to Oregon were explored by three graduate students from Oregon State University in a 2019 student report titled "Assessing the Feasibility of a Sea Otter Reintroduction to Oregon Through a Coupled Natural-Human Lens," conducted in partial completion of a National Science Foundation fellowship (Curran et al. 2019). The authors surveyed 78 potential stakeholders to gauge perceptions around a potential future sea otter reintroduction. Sampled stakeholders included the following: Elakha Alliance board members, environmental advocacy groups, staff from Pacific shellfish advocacy and research organizations, board members of Oregon's Ocean Policy Advisory Council (marine stakeholder groups that advise the governor's office), local governments on marine policy issues, commissioners for Oregon's Department of Fish and Wildlife Commission, the Oregon Trawl Commission, the Oregon Salmon Commission, and the Oregon Dungeness Crab Commission. The survey response rate was 36% (28/78), and participants were asked to invite others who had an interest in marine or fish and wildlife issues to also participate (n = 21), increasing the total survey sample size to 49. The authors recognized that this was a limited and informal survey due to the small sample size, and without formal survey methodologies (e.g., random selection of potential respondents), there is no guarantee of unbiased representation of public perceptions and views. Nonetheless, many of the survey respondents were leaders in their coalitions and thus were thought to be representative of their particular stakeholder groups.

A summary of respondent views on key topics associated with sea otter reintroduction is provided in Table 11.1. For the open-ended questions related to potential outcomes, 21 respondents reported that they anticipated one or more negative outcomes, and 46 respondents provided one or more positive outcomes. The majority of Oregon survey respondents (94%) perceived that there would be positive potential outcomes associated with the reintroduction of sea otters to Oregon; however, 43% of respondents also perceived that there could be negative outcomes. The authors reported the most common negative outcomes identified were harm to fisheries or reductions in certain sea otter prey species (n = 15); loss of access to marine areas as a result of federal, state, and local regulations related to sea otters (n = 4), and community conflicts resulting from different perceptions around the reintroduction (n = 3). Two individuals mentioned the conflicts created by sea otters in SE Alaska, citing the harm the otters have caused to fisheries there and expressing concerns that similar phenomena could occur in Oregon.

For the open-ended items related to positive outcomes of sea otter reintroduction, the most frequently cited outcome was the improvement in nearshore marine ecosystem health and the restoration of a balanced ecosystem (n = 27), followed by increased tourism (n = 24) and positive impacts on kelp (n = 23). Other positive outcomes listed included the following:

- reductions in urchins and other benthic species (n = 14)
- benefits to fisheries, such as finfish (n = 11)
- wildlife viewing, recreational, and cultural benefits (n = 4)
- sea otters serving as a flagship species that may increase interest in conservation and provide educational opportunities (n = 7)
- the restoration of a keystone species (n = 7)
- species-wide benefits to sea otters (e.g., increased genetic diversity, viability, and species connectivity; n = 4)
- the ethical obligation and "righting a historic wrong" (n = 4)
- increases in *blue carbon* (i.e., carbon captured by ocean and coastal ecosystems; n = 3)

» cultural benefits to Indigenous tribes (*n* = 2)
» increases in seagrass/eelgrass abundance (*n* = 2)

Overall, a majority of respondents (88%) supported reintroducing sea otters to Oregon to some degree, with only 10% strongly opposing and 2% somewhat opposing such an effort.

Table 11.1. Summary of stakeholder perceptions about the return of sea otters to Oregon, based on survey results.

Stakeholder affiliation	% associated negative outcomes	% associated positive outcomes	% stakeholder policy support
Commercial fisher (*n* = 7)	71	86	43
Recreational fisher (*n* = 20)	45	90	75
Indigenous tribe (*n* = 3)	0	100	100
Scientist (*n* = 12)	50	100	83
Local government (*n* = 8)	75	88	75
State government (*n* = 4)	75	75	50
Federal government (*n* = 2)	50	50	50
Environmental group (*n* = 27)	37	96	93
Charter boat/tour operator (*n* = 2)	0	100	100
Coastal recreationalist (*n* = 28)	36	96	89
Oregon coastal resident (*n* = 26)	31	92	81
Oregon non-coastal resident (*n* = 15)	60	100	100

Note. Respondents could self-assign to more than one stakeholder group among those listed in the "stakeholder affiliation" column. Adapted from Curran et al. 2019.

Key Positive Outcomes Identified by Stakeholder Survey Respondents

Increased Ecosystem Health and Ecosystem Services

When sea otters reclaim their historical habitat, they can increase overall species diversity via trophic cascades triggered by top-down forces. Increased species diversity has been linked to improved ecosystem resilience and health. More resilient and healthy ecosystems can provide a suite of ecosystem services. Stakeholder accessibility to these sites is a potential *confounding variable*, as it could serve as a potential source of disturbance to sea otters; however, access could also facilitate recreational activities (wildlife viewing and fishing) and the benefits derived from those activities.

Species Recovery and Conservation

Survey responses suggested that respondents could appreciate the historical context of a sea otter reintroduction, such as increasing the connectivity of sea otter populations and increasing genetic diversity. Over two-thirds of respondents favored a reintroduction source that reflected the genetic heritage of the extinct Oregon sea otter. In addition, half of the respondents found a balance of rescues from stranding programs and wild-caught otters to be appropriate.

Restored Cultural Connections

The prevalence of sea otter remains in Indigenous midden remains demonstrates their place in Indigenous culture for thousands of years (Hall et al. 2012). Indigenous accounts—both written and oral traditional knowledge—speak of the value placed on their pelts and their importance in trade. A successful sea otter reintroduction to Oregon would restore not only ecosystem function but also the cultural connection between Indigenous tribes and the sea otter.

Key Negative Outcomes Identified by Stakeholder Survey Respondents

Fisheries Conflicts

Competition between sea otters and fisheries is a common concern wherever sea otters and people co-occur (Carswell et al. 2015). Sea otter recovery can reduce the abundance and size of local sea otter prey populations (benthic invertebrates such as crabs, clams, and urchins); however, the species most impacted would depend on where sea otters are located (see Chapter 7). Oregon has several important commercial and recreational fisheries that could potentially be impacted by the reintroduction of sea otters, but the potential for conflict depends on the overlap of sea otters and important commercial fishing areas (e.g., crabbing grounds), which itself would be determined by the reintroduction's location and the rate at which the population spreads out along the coast (see Chapter 3). It would, therefore, be critical for managers from federal (USFWS), state (Oregon Department of Fish and Wildlife), and tribal agencies to carefully monitor the growth of the sea otter population and recreational and commercial benthic fisheries. They would need to maintain a balance and report survey results effectively to ensure that all stakeholders are engaged and their concerns are addressed.

Quantifying sea otter effects on economically important fisheries can be achieved by direct observation of sea otter diets combined with fisheries trend data on recreational and commercial harvests (e.g., Hoyt 2015). For example, fisheries managers in Washington have closed razor clam fishing in the Kalaloch area most years since 2012 due to low clam abundance and small size.[2] Kalaloch is the area where the Washington sea otter population has seen the highest growth since 2008, and the sea otters there eat razor clams almost exclusively (Hale et al. 2019). While some benthic invertebrate fisheries may decrease, other fisheries may increase. For example, the indirect food web effects of sea otter recovery include increased abundance and stability for kelp forests, an important habitat for some finfish species. Also, there have been documented increases in commercially fished species in other regions where sea otters have recovered (Markel and Shurin 2015).

Community Polarization

Survey respondents identified community polarization as a possible negative consequence of sea otter reintroduction. One respondent questioned the legitimacy of a sea otter reintroduction because they believed it was an interest group effort as opposed to an effort undertaken by the government. Others may share this perception, and it could potentially be made into a political narrative to oppose reintroduction. It is clear that, in each location, there will be people for and against sea otter reintroductions. Such concerns are important and should be dealt with through continued dialogue.

SURVEY CONCLUSIONS

The small survey of Oregon stakeholders summarized here indicated that most respondents recognized at least some positive benefits from potential sea otter reintroduction, including those who likewise identified negative consequences and expressed opposition to reintroduction. One of the negative outcomes of sea otter reintroduction that respondents identified was restricted access to the marine environment. Considering what areas are already protected in Oregon when evaluating potential reintroduction locations in Oregon could help minimize the possibility of new potential restrictions associated with reintroducing a nearshore marine mammal. To ensure a successful reintroduction with the least possible amount of conflict, it will be important for sea otter reintroduction managers to establish an open and ongoing dialog with all stakeholders, to build trust and facilitate understanding.

SUMMARY

Sea otters have been absent from Oregon's coast for over 100 years, and human activities such as commercial and recreational fisheries have developed during that time without sea otters as competitors. Thus, the return of sea otters to the nearshore often elicits both positive and negative reactions from coastal communities.

2 See the Washington Department of Fish and Wildlife's information on razor clam management: https://wdfw.wa.gov/sites/default/files/publications/02168/wdfw02168.pdf.

Some Indigenous community members may welcome the return of the sea otter to reestablish the relationship that Indigenous Peoples have had with sea otters for both cultural and spiritual reasons. Other coastal community members have more mixed opinions, as the expected gains and losses will not affect all people equally. Economic benefits to coastal communities following the return of sea otters are often emergent as an increase in total ecosystem biomass, increased value of finfish, increased carbon sequestration, and increased ecotourism. Economic costs to coastal communities following the return of sea otters are most often associated with a loss to invertebrate fisheries, such as crab, clam, cucumber, and urchin fisheries.

A small survey of Oregon stakeholders found that over 90% of survey respondents perceived that there would be positive potential outcomes associated with the reintroduction of sea otters to Oregon, while over 40% also perceived that there could be negative outcomes. The return of the sea otter to Oregon's nearshore will almost certainly be associated with disruptive changes to the nearshore ecosystem, some of which people will perceive as positive and some as negative. As has been the case in other regions, a reintroduction in Oregon will evoke both positive and negative responses from stakeholders. Therefore, engaging and continuing a constructive dialogue with all affected stakeholders and community groups should be a fundamental component of the decision-making process.

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