



# Sea Otter Open Houses 2023

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**Exploring Potential Sea  
Otter Reintroduction  
Oregon and Northern  
California**

August 2024



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## Summary

- In June 2023, we, the U.S. Fish and Wildlife Service (Service), held a series of informal open houses in 16 coastal communities in Oregon and northern California to speak with local residents and hear their perspectives regarding the possibility of sea otter reintroduction. An estimated 800 people participated in the open houses.
- Through personal conversations, written comment cards, and community-based mapping, we sought input from attendees to help us better understand what people in these communities value (what is important to them) and how they believe sea otters would affect those values should they return. We also had the opportunity to share information with the public and answer questions about the process of considering the possible reintroduction of sea otters.
- Information-gathering through these open houses is one of the initial steps in helping us to identify the appropriate evaluation criteria for considering the full range of possible ecological, social, and economic effects of potential sea otter reintroduction.
- General criteria identified by attendees as being important for the Service to consider included: biological diversity/ecosystem health; shellfish fishery impacts; Tribal and subsistence considerations; ecotourism potential; cultural or spiritual connections; environmental quality; economic benefit to communities/individuals; existence value; sea otter welfare/recovery; finfish fishery impacts; wildlife viewing and recreational experiences; learning and education opportunities; and traditions and way of life.
- Open house attendees expressed a range of expectations about the impact of sea otters. Perspectives included support for sea otter reintroduction for reasons including the restoration of ecosystem balance, the enhancement of wildlife viewing experiences, and the recovery of the species and reinstatement to its rightful place in the world. There were also concerns that sea otter predation would reduce shellfish catch or that sea otter populations would grow excessively large, thereby negatively impacting shellfish fishermen and coastal communities whose economies and way of life rely on these marine resources. Complex dynamics and nuances also arose through our conversations, where coastal residents who were enthusiastic about restoring sea otters to their area of the coast were simultaneously aware of the dependence of some of their neighbors on shellfish harvest and sensitive to their concerns.

## Background

In response to a congressional directive, in 2022 the U.S. Fish and Wildlife Service (Service) released a feasibility assessment evaluating the potential reintroduction of sea otters to areas of their historical range where they remain absent on the contiguous Pacific Coast of the United States (focusing on northern California and Oregon; [report available here](#)). Our assessment concluded that the reintroduction of sea otters is ecologically and legally feasible and would result in multiple substantial benefits to the species as well as the nearshore marine ecosystem. Importantly, the report also identified the potential social and economic impacts of reintroduction as an uncertainty in need of further investigation to fully understand the trade-offs associated with a possible future reintroduction.

Our 2022 feasibility assessment included a summary of interviews with 32 individuals from a variety of ocean user groups and the perspectives of some coastal Tribes on how sea otters could affect their social and economic values. Because this sample was limited, in our assessment we recommended additional outreach and information-gathering to better understand the breadth of values and interests of those who would be most directly affected by sea otter reintroduction. Such information is vital to understanding the impacts, both positive and negative, that individuals or communities might experience if reintroduction were to take place. As a first step in this process of gathering additional information, we conducted a series of informal open houses across the full extent of the area under potential consideration for sea otter reintroduction in summer 2023 (Figure 1).



Figure 1. Welcome station display used at the open houses.

## Open House Locations, Objectives, and Attendance

We held a series of informal public open houses in 16 coastal communities ranging from Astoria, Oregon, to the San Francisco Bay Area in northern California from June 20 through June 29, 2023 (Figure 2). Our intention was to follow up on the next steps recommended in our feasibility assessment by reaching out directly to people in the coastal communities that would be most directly affected by the possible future reintroduction of sea otters.

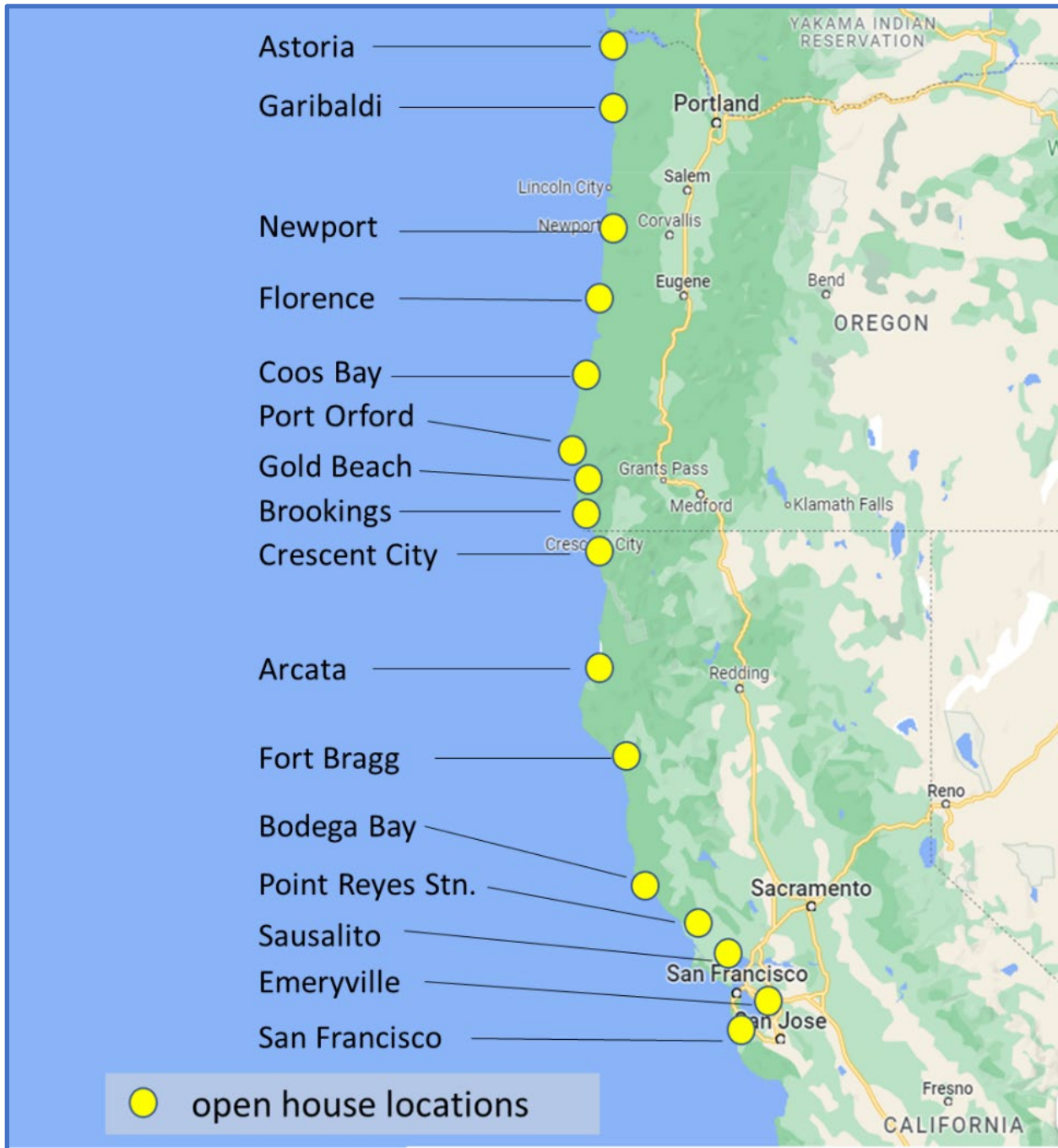


Figure 2. Communities where open houses were held (indicated by yellow circles).

The key objectives of the open houses were to:

- **Raise public awareness** that we are exploring the possibility of sea otter reintroduction;
- **Listen first**, by giving interested members of the public an opportunity to provide feedback early in the process, get answers to their questions, and share information and perspectives in direct conversations with Service staff and scientists;
- **Learn directly** from community members about their concerns, interests, and values and use that information to inform next steps, including a rigorous assessment of potential socioeconomic impacts, both monetary and non-monetary, associated with possible reintroductions;
- **Share anticipated next steps** and opportunities for ongoing and future input with the public.

At least 734 people attended the open houses. However, we were not able to count every person entering each venue, and we estimate that the actual number was closer to 800 people across all 16 venues (Table 1). A total of 455 people chose to sign in at the door. Of those who signed in, 93% were from coastal Oregon (152) or California (272), and the remaining 7% were visitors from other areas.

**Table 1. Sea otter open houses – minimum number of people in attendance by community**

Oregon			California		
Location	Date	Minimum Estimated Attendance	Location	Date	Minimum Estimated Attendance
Astoria	June 20	15	Crescent City	June 24	25
Garibaldi	June 21	25	Arcata	June 25	70
Newport	June 21	98+	Fort Bragg	June 26	90+
Florence	June 22	15	Bodega Bay	June 27	49
Coos Bay	June 22	30	Point Reyes Station	June 27	61
Port Orford	June 23	45	Sausalito	June 28	57
Gold Beach	June 23	17	San Francisco	June 28	36
Brookings	June 24	23	Emeryville	June 29	78

## Open House Format

Open houses ran for 2.5–3 hours and were open to the public on a drop-in basis. Open houses were informal spaces for learning and did not include any presentations or formal public comment. The open house format consisted of several information stations with educational displays or interactive opportunities, each staffed by a Service biologist or public engagement specialist to exchange information with attendees (Figures 3 and 4). Displays were intended to present objective, factual scientific and policy information relevant to the consideration of potential sea otter reintroduction. **In all cases, we attempted to be clear that the Service is purely in an early, exploratory, and information-gathering stage; that reintroduction has not been proposed; and that no decisions have been made.** Service staff were there to listen and to encourage questions, dialogue, and feedback.



Figure 3. Information station on the history of sea otters, one of several information stations at the open houses.





*Figure 4. A public engagement specialist answers questions at the information station on sea otters' natural history and their keystone species role. Photo by Mary Benjamin/Fort-Bragg Advocate-News, used with permission.*

The topics of the information stations at each open house were as follows:

- 1) History of sea otters/why consider reintroduction;
- 2) Sea otter natural history/keystone species role;
- 3) Laws and regulations associated with reintroduction;
- 4) Socioeconomic considerations (monetary as well as intrinsic, relational, and cultural values that could be affected either positively or negatively);
- 5) Next steps/share your suggestions (feedback requested on socioeconomic criteria to be considered in evaluating the benefits and risks of a potential reintroduction);
- 6) Community-based mapping (an interactive activity designed for participants to share information about important benefits provided by the coastal landscape, and how those features might be affected by sea otters).

## How We Gathered Feedback

Open house attendees had the opportunity to engage with Service staff and provide their thoughts or recommendations through several avenues:

❖ **One-on-One Conversations.** We had many informative discussions directly with interested members of the public (Figure 5). In order to have a more personal experience, in some cases we did not take notes in real time during these conversations; however, we made note of comments and feedback provided through personal conversations as soon as possible to ensure we captured the points shared with us by attendees. We have summarized the key messages we heard based on these conversations below.

In addition to common themes that we heard from open house attendees, several questions were asked at almost every open house. We have compiled these frequently asked questions and our responses in Appendix A to this document.

❖ **Considerations for Next Steps.** The Next Steps station followed the information station on Socioeconomic Impacts and requested that attendees provide us with their thoughts on the socioeconomic criteria (types of effects) we should focus on evaluating as we consider the possibility of sea otter reintroduction, as well as suggestions as to how best to measure and manage those effects. We received 154 responses. Below we provide a summary of the suggestions for socioeconomic criteria to be considered. A transcribed version of the comments we received on socioeconomic criteria is provided in Appendix B.



Figure 5. Service biologists talk with open house attendees.

❖ **Community-Based Mapping.** We created a mapping activity (Figure 6) designed to help us gather information about the social and environmental attributes of the coastal landscape most important to community members, and to help us better understand how people think those benefits might be diminished or enhanced by the return of sea otters. Known as “landscape values,” these perceived benefits and connections important to people in a particular region were binned into three general categories: instrumental (material goods or services), relational (sociocultural or human-nature interactions), and ecological (intrinsic value of nature). Open house attendees were invited to complete the activity on a voluntary basis, and 345 people (~40% of open house attendees) chose to do so. The methods used to analyze the results of the community-based mapping exercise are described in Appendix C, and a transcribed version of the comments we received is provided in Appendix D.

❖ **Other Avenues.** We provided general comment cards that invited attendees to rank the value of the open houses, asked whether they felt we had overlooked any important topics, and solicited additional questions or comments. We received 70 general comment cards; the results of feedback we received are presented below (see General Comments on Open Houses). In addition, a few individuals dropped off written letters at the open houses; these letters are provided in Appendix E.



*Figure 6. A Service biologist leads open house attendees through the community-based mapping activity.*

## How Information Gathered Will Be Used

Conservation actions such as species reintroduction can result in direct and indirect changes that impact the things and places that communities value most. In our feasibility assessment, we concluded that we lacked sufficient data to understand the probable impacts of sea otter reintroduction on human interests, but we also recognized that this information is critical to further consideration of sea otter reintroduction. The information gathered from these open houses **is a starting point** (see Box 1) to help us understand and consider what is important to the public in terms of economic and non-monetary attributes of the coastal environment that may be affected by sea otters. Identification of these attributes will help to focus a socioeconomic impact assessment that takes local and regional priorities into account and informs our evaluation of risks and benefits as we consider the possibility of sea otter reintroduction.

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### ***BOX 1. IMPORTANT DISCLAIMER REGARDING INTERPRETATION OF INFORMATION PRESENTED IN THIS REPORT***

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The findings reported here reflect a range of views from communities along the coast but should not be interpreted as representative of any individuals or entities beyond those who personally participated in the open house events. Individuals who chose to attend or who were able to attend an open house event in person are not a random sample of the community. It is not appropriate to draw conclusions about the overall attitude of any particular community (for example, whether in favor of or opposed to sea otter reintroduction) based on the views shared by the individuals who happened to attend in that community. For these reasons, we do not attempt to characterize the perspectives of any particular community at large on the basis of the input shared with us from those who elected to or were available to attend one of our open house events.

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## Common Themes and Questions from In-Person Exchanges across All Open Houses

Here we summarize some of the most common comments and questions that we heard across the series of open houses during personal discussions with attendees<sup>1</sup>. These summaries are based on conversations attendees had with Service staff members who were present at the open houses. Although we have made every attempt to be objective in our representation, these summaries necessarily reflect our interpretation of the information communicated to us. Our responses to some of the most frequently asked questions (FAQs) are provided in Appendix A of this report.

### DESIRE TO SEE SEA OTTERS BACK WHERE THEY HISTORICALLY OCCURRED

Many open house attendees were excited at the prospect of seeing sea otters in the wild in their area of the coast within their lifetimes. These people generally considered sea otters to be a significant positive addition to the wild nature of the coastal experience, adding to the pleasure of wildlife viewing, recreational enjoyment, and the natural beauty of the area. Others spoke of feeling an ethical obligation to restore sea otters to their natural place in the ecosystem, and of the satisfaction that would come with this opportunity to right the historical wrong of nearly driving sea otters to extinction. For many, the desire to see sea otters in the wild again along the Pacific coast was intertwined with the view that sea otters are a natural part of the ecosystem and that reintroduction would restore them to their “rightful place” on the Pacific coast.

### SEA OTTERS PROVIDE VALUABLE ECOSYSTEM SERVICES

We heard support for the reintroduction of sea otters from the perspective of making the ecosystem whole again and restoring ecosystem balance. Many attendees shared their concerns about the degraded state of the nearshore marine ecosystem—in particular their observations of significant losses of kelp, seagrasses, and associated biodiversity—and were hopeful that restoration of the sea otter as a native keystone predator could help reverse these trends. Specifically, they mentioned the contributing role that sea otters might play in the restoration of kelp forests through control of sea urchin populations. Attendees were also supportive of bringing back sea otters because of their indirect enhancement of finfish habitats and the resulting benefits to finfish fisheries such as salmon, rockfish, and herring. Finally, attendees frequently mentioned the idea that a more balanced ecosystem due to the presence of sea otters would

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<sup>1</sup> Note that redundancy between themes presented in this section, the written comments in the Appendices, and the summary of results from community-based mapping presented below is to be expected, as many of the same attendees we spoke with also provided written comments and/or participated in the community-based mapping exercise.

enhance the resiliency of this system to the effects of climate change and enhance carbon uptake in the ocean.

### **ECONOMIC BENEFITS ASSOCIATED WITH SEA OTTERS**

The potential for sea otters to bring valuable ecotourism dollars to coastal communities as a source of additional local revenue was frequently mentioned; encouraging the development of such tourism in a sustainable manner was also a theme. We heard from attendees who saw the potential for economic value and employment opportunities from wildlife viewing tours, dive shops and dive tours, kayak rentals, recreational finfish fishing, sightseeing, and all associated service industries, including hotels, restaurants, gas stations, etc. Some attendees also mentioned the value of educational opportunities and programs associated with sea otters.

### **POTENTIAL IMPACTS TO SHELLFISH FISHERIES**

Many shellfish fishermen expressed concerns or had questions about how restoring sea otters might impact their fishery. In Oregon we heard from several crab fishermen that they are already feeling pressure on multiple fronts from recent regulations designed to avoid entanglement with whales, the impending closure of some fishing areas due to development of offshore wind energy facilities, and the closure of some salmon fisheries due to declining stocks (many crab fishermen do not fish exclusively for crab but rely on multiple fisheries throughout the year to make a living). Several crab fishermen described the crab fishery as being the only viable fishery left and felt that sea otters could pose a threat to their livelihoods.

In California, we heard similar concerns from a few crab fishermen, but northern California fishermen who attended primarily focused on recreational abalone diving and the continued loss of its associated economic benefits. The recreational abalone fishery is currently closed due to diminished numbers of abalone resulting from loss of their kelp food source, but most abalone divers felt that if sea otters are reintroduced it will prevent the abalone fishery from reopening in the future. A few abalone divers expressed their belief that the fishery would not reopen in their lifetimes and that significant actions needed to be taken to restore the ecosystem, including potentially reintroducing sea otters.

We also heard concerns about how sea otters might impact clam and sea urchin harvests. Some commercial clam divers in the area of Netarts Bay, Oregon, shared their worries that sea otters would have a detrimental effect on their fishery. Several people noted that sea otters could negatively impact subsistence harvest by indigenous peoples in the Humboldt Bay area of California. On the southern Oregon coast, and also in areas of northern California, commercial sea urchin divers in attendance expressed concerns regarding competition with sea otters for harvestable sea urchins.

### **CONCERNS THAT REINTRODUCED SEA OTTERS WILL GROW TO GREAT NUMBERS**

Many fishermen hold permits to harvest shellfish in Alaska as well as Oregon or California. We heard these crab fishermen point to their observations of large numbers of sea otters in southeast Alaska as the basis for their concern that sea otter reintroduction in Oregon or northern

California would result in similar densities of sea otters, with likely negative consequences for crab fisheries. [See our FAQs, Appendix A, for information on this topic].

### **SENSITIVITY TO CONCERNS OF SHELLFISH FISHERMEN**

Even if they were personally supportive of the idea of sea otter reintroduction, many community members expressed their empathy for the concerns of their shellfish fishermen neighbors and encouraged the development of positive solutions that would allow reintroduction to move forward while ameliorating potential negative impacts that may fall to some individuals. Several people mentioned that they personally felt widespread severe consequences to shellfish fisheries were unlikely, but nonetheless they understood that fishermen in those industries feel differently, and they respected their concerns.

### **QUESTIONS AS TO HOW EFFECTIVE SEA OTTERS WILL BE AT RESTORING KELP**

Although most attendees agreed that explosive population increases in purple sea urchins have occurred and pose a critical threat to kelp ecosystems along the Pacific coast, several people questioned whether sea otters would in fact contribute to reducing the number of purple sea urchins in widespread “urchin barrens.” In particular, some people stated it is wrong to think that sea otters will eat non-gravid purple sea urchins and felt that the Service is being disingenuous in suggesting that sea otters are capable of restoring kelp [See our FAQs, Appendix A, for information on this topic.]

### **NOT ALL COMMUNITIES VIEW INCREASED TOURISM AS A POSITIVE OUTCOME**

Studies to date on the economic impacts of sea otter reintroduction have shown an overall net economic benefit to communities, often driven largely by increased revenue from ecotourism and associated support services [See our FAQs, Appendix A, for information on this topic]. However, some people in small coastal communities did not view increased tourism and its associated economic benefits as desirable. These people mentioned concerns about the reduction in affordable housing for local residents that can occur as a result of increasing numbers of housing units being converted to short-term rentals to accommodate visiting tourists. They also mentioned increased traffic and litter. Some locals in these communities did not see this tradeoff as a net positive.

### **QUESTIONS AS TO HOW SEA OTTERS WILL BE MANAGED ONCE REINTRODUCED**

Several people expressed an interest in understanding the options for managing or controlling numbers of sea otters following reintroduction. In particular, some people suggested that indigenous peoples should be allowed to manage sea otters using traditional methods or that subsistence harvest of sea otters be provided to coastal Tribes. Others (particularly shellfish fishermen) asked whether removal or culling of sea otters would be considered if population growth of reintroduced sea otters exceed expectations. [See our FAQs, Appendix A, for information on this topic.]

## Written Comments from Open House Locations

We received a total of 568 written comments from all 16 open house locations from the Next Steps station, Mapping Activity station, and comment cards. The written feedback we received from attendees in the 16 coastal communities we visited was so detailed and varied that we felt it would be inappropriate to attempt to distill it into a brief summary. We appreciate the time and thought that attendees put into sharing their perspectives with us. To do justice to those comments, we share them as written so that none of the intended meaning is inadvertently lost or mischaracterized. We have transcribed the written comments received at each of the open house locations, but to protect the privacy of open house attendees, we have removed any personal identifying information. We provide these comments, organized by open house location, in the appendices to this report.

## Considerations for Next Steps

At our Next Steps station we asked attendees to suggest what specific socioeconomic considerations they think would be most important for the Service to consider as we evaluate the possibility of sea otter reintroduction (Figure 7). We received written responses from 155 open house attendees on the Next Steps input cards.

Attendees were asked the following questions (shortened and paraphrased here):

1. What socioeconomic criteria (types of effects) should we be thinking about if selecting possible sea otter reintroduction sites for further study?
2. What are the best measures for the criteria you identified? Economic effects are usually measured in dollars gained or lost, but other effects can be more difficult to quantify and evaluate even though they may be important to many people (for example, cultural or existence values, wildlife viewing opportunities, or recreational clamming).

### Socioeconomic Considerations

Scientists are currently considering what biological and logistical criteria would help us choose potential reintroduction sites. But an equally important part of the process is our consideration of socioeconomic effects.

As we go forward, what socioeconomic criteria (types of effects) should we be thinking about if selecting possible reintroduction sites for further study? For example, socioeconomic criteria might include effects on Tribal subsistence, effects on cultural values, costs to local oyster farms to switch to otter-proof gear, or economic benefits to local kayak shops or tour operators.

**What specific criteria do you want to be sure we consider in this area?**

### Best Way to Measure Effects

We also need to know how best to measure different types of effects. Economic effects are usually measured in dollars gained or lost, but other effects can be more difficult to quantify and evaluate even though they may be important to many people. For example, how might we measure effects on Tribal subsistence harvest, cultural values, wildlife viewing opportunities, or local recreational clamming?

**What do you think are the best measures for the criteria you identified?**

Figure 7. Prompts used to ask participants for feedback at the Next Steps station.



3. Sea otter reintroduction, should it move forward, would be likely to result in economic gains for some and losses to others. How might we manage these impacts in a fair and equitable way?

We recommend you read the transcribed comment cards received to get the best sense of how attendees responded to these questions in their own authentic voice (Appendix B). For the first question, responses as to what considerations or criteria are important to people ran the full gamut, from those who identified only immaterial (e.g., non-monetary, cultural, intrinsic) benefits as being exclusively important (for example, the value of healthy ocean ecosystems, biodiversity, or sea otters in and of themselves) to those who identified the material (monetary or economic) considerations as most important (for example, crab, abalone, and urchin fishermen cited their ability to make a living and support their families).

The general categories of criteria that attendees identified as being important for the Service to consider in weighing reintroduction and the selection of possible reintroduction sites are listed in Box 2.

#### ***Box 2. Social and Economic Criteria Identified by Attendees for Consideration\****

- Biological diversity/ecosystem health
- Shellfish fishery impacts – commercial, recreational
- Tribal and subsistence considerations
- Ecotourism potential
- Cultural or spiritual connections
- Environmental quality
- Economic benefit to communities/individuals (dollars gained or lost)
- Existence value
- Sea otter welfare/recovery
- Finfish fishery impacts – commercial, recreational
- Wildlife viewing and recreational experiences
- Learning and education opportunities
- Traditions and way of life

\*Presented in order, with most frequently mentioned first.

For the second question, how best to measure or value those criteria to weigh trade-offs between those things that people thought it was important for us to consider, we again received a wide range of answers. For some of the more traditional quantitative material or economic values, suggestions could be quite straightforward, such as pounds of clams harvested in a season or annual income from crab landings. There were some suggestions for how best to measure some of the immaterial values, such as extent of kelp cover for ecosystem health or willingness-to-pay

for existence value. In general, the lack of specific suggestions in this area is indicative of the complexity of how best to quantify qualitative values for the purposes of fairly evaluating socioeconomic impacts.

As the third question was entirely open-ended and answers were quite wide-ranging, we did not attempt to classify them here. We refer readers to the transcribed comments in Appendix B.

## Community-Based Mapping

The interactive community-based mapping exercise offered at our Mapping Activity station (Figure 8) was developed by a social science specialist to help us identify the economic, sociocultural, and intrinsic attributes of the coastal landscape that are most important to individuals and communities, as well as how people think those attributes might be affected by the return of sea otters. Here we provide a brief synopsis of the methods for this exercise and a summary of our evaluation of the results. We provide complete methods in Appendix C and the full data table of responses, including transcribed activity cards, in Appendix D.



Figure 8. Mapping station setup, with full scale map at right.

## Methods

Mapping activity participants at each open house location were provided with a card that was printed on one side with a map of the coastal region surrounding the location of the open house (Figure 9) and on the other with questions and space to respond (Figure 10). Although the cards were location-specific, participants had the option to request a different card centered on another area if they preferred. Participants were asked to identify an area important to them and to describe why that place is important (e.g., the attributes they valued about that area). We refer to these attributes and their associated benefits as “landscape values.” Next, participants were asked to share their expectations for how the return of sea otters might affect their identified landscape values. Participants were not limited in the number of places or landscape values they could identify.

We evaluated the results of the mapping activity using several established methods for analyzing textual (qualitative) data. First, we identified what landscape values emerged from the responses (such as recreation or environmental quality). Then we sorted these landscape values into one of three categories: instrumental (pertaining to material goods and services); ecological (pertaining to the intrinsic value of the natural world in and of itself, including the diversity of plant and animal life); or relational (pertaining to non-material meanings and human-nature relationships and interactions). We discuss each of these categories in further detail in the results and discussion sections below.

We then categorized the directionality of the expected impacts of sea otters in relation to the identified landscape values: supportive (focusing on positive impacts), concerned (focusing on negative impacts), mixed (identifying both positive and negative impacts), ambivalent (reporting impacts as not important), and unsure (conveying uncertainty about potential impacts). We assigned numbers to these categories to indicate the strength and direction of the expected impact.

**Instructions:** Identify a location that is particularly important to you, your community, or the broader region. Place a sticker on the *approximate* location.



Figure 9. Local map on one side of a mapping activity card from the Astoria, Oregon, open house. Although participants were given cards specific to the location of the open house they were attending, cards with maps for all coastal locations throughout northern California and Oregon were available upon request.




## The Oregon Coast

1

The coastal range of the Pacific Northwest is a special place to live, work, and visit. We want to capture the areas and qualities of the landscape that are particularly important to you and your community. Your response will help us understand your perspectives in the context of wildlife conservation for the region.

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**Instructions:** Identify a place along the Oregon coast that is particularly important to you, your community, or the broader region. Using the map on the flipside of this handout, place a sticker on the *approximate* location on the map. Then answer the questions below to share more information about your selection.

**Name or Description of Place** \_\_\_\_\_

**Why is this place special to you or your community?** (For example: natural beauty, recreation, livelihood-shellfishing, subsistence, mental rejuvenation, supports wildlife).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**How might sea otters affect the connections or benefits you identified above?**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Next steps:** If you'd like to share your response with your community, place a pin on the larger wall map on the location you identified on the back of this card. If you want to choose more than a single location, please fill out another card.

Figure 10. Questions on flip side of mapping activity card asking attendee to select a location, describe why it is important to them, and state how they would expect sea otter presence to impact what is important to them about that place.

## Results

Landscape values referenced by open house attendees reflected a wide range of attributes and associated benefits. For people who were supportive of the idea of sea otters returning, ecological landscape values, such as wilderness and environmental quality, ranked as particularly important. Instrumental landscape values, such as wildlife viewing, and relational landscape values, such as natural beauty, physical/mental/spiritual health, and learning, were also mentioned frequently.

For people who were concerned about potential impacts, the instrumental landscape values of commercial shellfish and finfish fishing and economics were mentioned most frequently, as well as relational landscape values, such as subsistence and an intergenerational way of life associated with coastal livelihoods. Some attendees felt that sea otters would have negative effects on local economies and fishermen, while other respondents anticipated an economic boon through ecotourism and associated service industries. Many people were personally excited about the return of sea otters but worried about possible impacts to their community.

We summarize the mapping activity results graphically below (Figure 11). Each of the circles represents one of the key landscape values identified by coastal residents; the size of each circle

is proportional to the number of times that particular landscape value was referenced by open house attendees. The color of the circles reflects the nature of the landscape value, whether instrumental (goods and services; dark blue), relational (sociocultural; teal), or ecological (green). Landscape values that are closer together were more likely to be referenced alongside one another in a response, while those further apart were less likely to be associated. Note that none of these landscape values were mutually exclusive with one another, and there was a range of value bundles held by any one individual. For example, the same participant might value commercial shellfish fishing, tradition or way of life, recreation, natural beauty, and biological diversity. The arrow at the bottom reflects how each landscape value was correlated with the participant's expected impact of sea otters, ranging from concerned (left) to mixed (middle) and supportive (right).

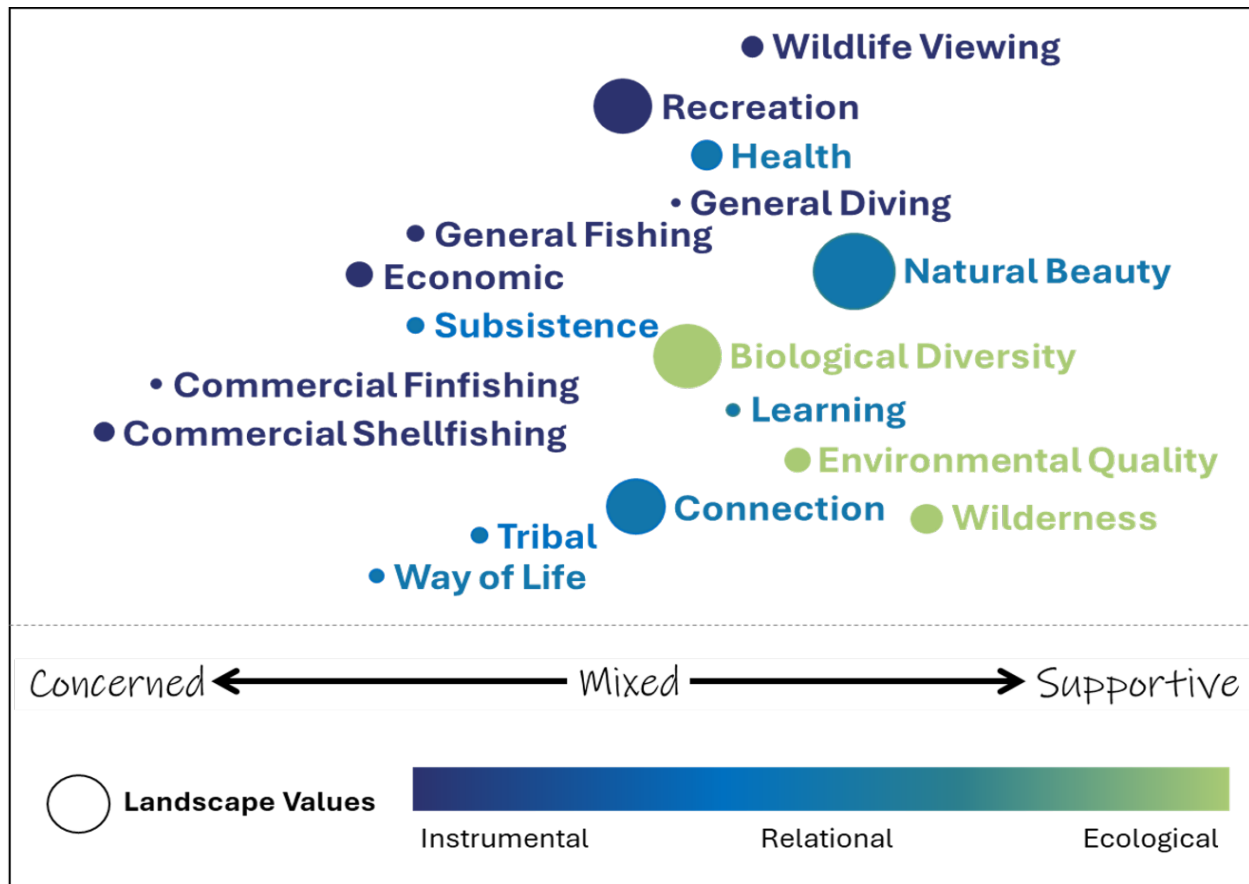


Figure 11. Visualization of how landscape values identified by open house attendees in the context of potential sea otter reintroduction are related to one another. Circle size is proportional to the total number of times that particular benefit was referenced. Circles closer together represent landscape values more likely to be mentioned together. No landscape values were mutually exclusive with each other. The arrow along the horizontal axis visualizes how the expected impacts of sea otters correlated with the landscape values important to coastal residents. Sentiment ranged from concerned (left) to supportive (right), with the expectation of mixed impacts in the middle.

## Discussion

Across the open houses, attendees identified a wide range of landscape values as being especially important to them. We discuss these landscape values, and attendees' expectations of how sea otters would affect them, by category (instrumental, relational, ecological).

### Instrumental Benefits of the Coastal Landscape Identified by Open House Attendees

- **Recreation** – Outdoor recreation opportunities, both on and off water
- **Wildlife Viewing** – Observing marine life, tidepools, birds, and other animals
- **Commercial Finfish Fishing** – Fishing for finfish commercially and/or for livelihood
- **Commercial Shellfish Fishing** – Fishing for shellfish commercially and/or for livelihood
- **General Fishing** – Fishing for sport, personal enjoyment, or tourism
- **General Diving** – Diving for sport, personal enjoyment, or tourism
- **Economics** – Income and employment opportunities (especially tourism)

One of the major themes shared across communities was appreciation for the diverse array of recreational opportunities along the coast, such as “paddling, hiking, dog walking ... enjoying nature and wildlife.” Wildlife viewing was emphasized alongside opportunities for recreation and was viewed favorably both for personal pleasure and as part of the ecotourism industry in the region. Residents enjoyed walking or hiking alongside wildlife, whereas others shared special locations to be still in nature, such as a spot in Newport where “there is no better place to sit and watch the waves and the whales.” Some people who valued recreational attributes of the coastal landscape were excited about the opportunity to see sea otters, whereas others noted that indirect benefits, such as the “diversity of [the] area” may improve recreational benefits related to wildlife. Conversely, some attendees expected negative impacts on recreation and voiced concerns about the potential for regulations that would lead to the loss of recreational access.

Although many attendees were excited for the personal benefits related to recreation in the coastal landscape, they also had concern about the potential negative impact to their communities, especially with respect to commercial fishing. Commercial fishing was identified as an important and deeply ingrained aspect of coastal communities, particularly in rural areas with multigenerational fishing families. And residents who were not personally tied to commercial fishing for their own livelihood still recognized its larger importance to their community: “I value the ... contributions this industry gives to [my] small rural community.” Commercial finfish fishing for species such as salmon, rockfish, and tuna were listed as an important part of the community alongside recreational and subsistence fisheries. People who spoke to the importance of commercial shellfish fishing and finfish fishing were both more likely to expect sea otters to have a negative impact on the things they valued about the coastal landscape. However, some attendees were hopeful that, in the long term, sea otters would actually help these industries through their ecological effects, specifically the restoration of sea urchin barrens back to kelp forests.

We separated references to commercial shellfish or finfish fishing from references to fishing and diving in more generalized terms or if mentioned in relation to indirect personal, recreational, or tourism-based benefits. People who held recreational versus livelihood-based values around diving were more likely to expect sea otters to have a positive impact on the coastal region by “control[ling] sea urchin barrens and revitaliz[ing] kelp forests,” which they expected would lead to an increase in marine biodiversity. Even though they believed sea otters would increase their own personal benefits, some attendees who dive or fish recreationally were worried about the possible effect of sea otters on others in their community who worked in the fishing industry.

Attendees appreciated that the coastal landscape provided economic value by allowing them to earn income, provide food for themselves and others, and otherwise support themselves in a variety of ways. Commercial fishing and diving industries were viewed as particularly important to the local economy of many communities. Tourism and ecotourism were also highlighted in some areas. Tourism and recreation were often referenced together, and wildlife viewing was seen as a draw for ecotourism specifically. Additionally, attendees (especially those who were involved in learning or teaching along the coast) referenced educational opportunities as a mechanism to further enhance economic benefits related to tourism in the area.

Overall, the economic values identified as being provided by the coastal landscape were diverse across and within communities. Concerns regarding economic values and sea otters largely centered around the fishing industry, whereas support was linked to an expected positive increase in ecotourism. People also distinguished the potential for personal benefit from apprehension about community-level impacts.

### Ecological Benefits of the Coastal Landscape Identified by Open House Attendees

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- **Biological Diversity** – The plant and animal life unique to the region
  - **Environmental Quality** – Producing, preserving, cleaning, and renewing air, soil, and water
  - **Wilderness** – Protected lands or areas in their naturally wild state that are otherwise uninhabited or comparatively untouched by human development
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The uniqueness of the plants, wildlife, and habitat of the coastal region was a repeated theme in the mapping exercise. Attendees often mentioned the importance of biological diversity alongside natural beauty, wilderness, the economic importance of wildlife, and mental health (such as the rejuvenation and peace found in nature). Recreation and viewing wildlife were two common instrumental values commonly referenced alongside the ecological importance of wildlife in the region.

Attendees also spoke to the environmental quality of the coastal ecosystem and its ability to provide a multitude of producing, preserving, cleaning, and renewing ecosystem services. Kelp forest was recognized as an important habitat for wildlife, people, and the planet. However, coastal residents expressed feelings of uncertainty and loss in the face of changing

environmental conditions, especially with respect to the loss of kelp forest and other wildlife habitats. As one fisherman shared, “my life is changing, being a commercial sea urchin diver, boat owner, fisherman due to no kelp.” Climate mitigation and resilience were often mentioned, as was the intrinsic importance of the ocean to the health of the planet.

Many attendees were hopeful that sea otters, as a keystone species, would positively impact both biological diversity and environmental quality in the coastal region through the restoration of kelp. In particular, people spoke of the ecosystem as being out of balance and of their hope that sea otters may help mitigate sea urchin barrens. However, other attendees voiced concerns that sea otters could exacerbate—and not fix—current environmental challenges in the region. As with economic benefits, positive ecological expectations were tempered by attendees who highlighted the need to also attend to the instrumental values of their community. For example, one attendee expressed excitement about the potential environmental benefit of sea otters but considered the potential negative impacts in kind:

I really hope that sea otters could help restore the kelp forest and keep urchins from destroying them. The otter is a key player in ecosystem balance. I'm also mindful of the needs of fishermen, both subsistence and commercial, urchin divers.

Many attendees expressed a deep and widespread commitment to protect the wilderness value of the coast. People placed particular importance on the stewardship, continued protection, and restoration of this wilderness value as a moral duty. Wilderness-related values were especially related to positive expectations towards sea otters in restoring marine ecosystems, and sea otters helped to symbolize the importance of coastal restoration and wilderness.

### Relational Benefits of the Coastal Landscape Identified by Open House Attendees

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- **Health** – Physical, mental, and spiritual well-being
  - **Natural Beauty** – The scenery, sights, smells, and sounds of the coastal region and the unique ecosystems therein
  - **Learning** – Opportunities for learning, teaching, and research associated with the cultural and natural environment of the coast
  - **Tribal** – The home, heritage, culture, traditions, and ancestral lands of First Peoples
  - **Subsistence** – The gathering and use of natural resources to sustain oneself, including customary and traditional harvesting
  - **Connection** – The memories, human culture, and emotional bonds provided by home, friends, and family associated with a particular place
  - **Way of Life** – Generational, familiar, or longstanding traditions and lifestyle
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Physical, mental, and spiritual health were all tightly interwoven and commonly cited benefits of human well-being through people-nature interactions. Words such as solitude, peace, quiet, healing, and tranquility were all used to describe special coastal places for human health. As one



attendee stated, “time along the ocean is healing time.” Human health was viewed as interdependent with instrumental values such as recreation and wildlife viewing, as well as with natural beauty. People who valued mental and physical health largely held mixed to positive views about sea otters, with many people tying their interactions with the landscape to promote well-being as being further supported (indirectly) by the presence of sea otters and the corresponding biological diversity.

The natural beauty of the coastal region was the most commonly shared landscape value across attendees and open houses, whether in urban or rural areas, and whether in Oregon or Northern California. Many people appreciated wildlife and plants as interconnected with the natural beauty of the landscape, whereas others mentioned natural beauty as an important reason to protect the wilderness value of the coastal region. People who valued the natural beauty of the region were more likely to expect positive impacts from sea otters.

To some, the coastal landscape provided the relational value of learning: that is, opportunities to learn about, teach, and research the cultural and natural environment. People who valued learning were excited about sea otters’ potential to serve as a focal point for conservation programming, for teaching visitors about marine systems, and for experiential opportunities for current and future generations.

Attendees recognized the importance of Tribal “spiritual heritage (traditional stories and creation, ceremony)” and subsistence as distinct but tightly coupled values of the coastal landscape. Some places were identified as important because they were ancestral homelands or lands that otherwise held intergenerational meaning. Connected with Tribal heritage and knowledge, the landscape was valued for its spiritual and cultural significance to Indigenous peoples, as well as for providing subsistence through “traditional Indigenous harvest.”

Subsistence value was also used in a generalized way to describe the sociocultural importance of the ocean—and especially shellfish—as a source of food or livelihood for coastal communities. Attendees who expected both positive and negative impacts expressed their view that engaging Tribes in the “management, restoration of culture, sovereignty, and access to natural resource they don’t have currently” was critical to the success of any efforts in relation to sea otters. Tribal values related to the traditional hunting of sea otters for regalia and as part of the cultural history of the region were mentioned as a potential positive impact, whereas there was also concern for the potential loss of Tribal subsistence reliant on shellfish.

The memories, human culture, and emotional bonds provided by home, friends, and family were all important for the connection between people and their coastal environment. Many attendees cited their longstanding intergenerational or personal connection to the area, which sustained a way of life steeped in rich history and tradition they wished to pass down to future generations. Although the instrumental provisioning of goods and services (such as shellfish) were often tied to the coastal way of life, people expressed that monetary tradeoffs alone would not compensate for these valued qualities of the region if they were lost.

## General Comments on Open Houses

Attendees had the option to provide feedback to the Service on the open houses and whether they found them to be useful or informative, using a scale ranging from very valuable to not at all valuable. We received 70 general comment cards from open house participants. Of these, 87% found the open houses to be very valuable (63%) or valuable (24%). The remainder found the open houses somewhat valuable (4%), were neutral (6%), or did not answer (3%).

## CONCLUSION

**We wish to extend our appreciation to all who participated in the open houses and provided us with valuable information to consider in our ongoing exploration of the possibility of reintroducing sea otters to Oregon and northern California.** As mentioned above, the viewpoints of those who participated should not be assumed to represent the breadth or depth of perspectives of their communities. We recognize that many people may not have been able to attend these in-person events for a variety of reasons. While the open houses were an opportunity for early input into the process, they are only one step in our ongoing effort to listen to and capture the voices of coastal community members. We are continuing our outreach to all interested parties for input into our identification and evaluation of the potential social and economic impacts, whether positive or negative, of sea otter reintroduction. As consideration of possible sea otter reintroduction continues, there will be multiple opportunities for further public engagement in a variety of formats.

We emphasize that there is no proposal to reintroduce sea otters at this time, and we are not in a formal comment period. However, we are interested in learning what factors you think are important for us to evaluate as we determine the next steps, if any, in the reintroduction consideration process. You may email us at any time at [pacificcoastseaotters@fws.gov](mailto:pacificcoastseaotters@fws.gov). To be notified of any future announcements or opportunities for input, we invite you to sign up for our mailing list. Please send an email to [pacificcoastseaotters@fws.gov](mailto:pacificcoastseaotters@fws.gov) with the word “subscribe” in the subject line. We also maintain a website that provides information and notifications relevant to sea otter reintroduction consideration on the Pacific coast: <https://www.fws.gov/project/exploring-potential-sea-otter-reintroduction>.

## APPENDICES

Appendices to this report are available by clicking on the links below.

**Appendix A** – Frequently Asked Questions (FAQs)

**Appendix B** – Next Steps input cards

**Appendix C** – Community-based mapping methods

**Appendix D** – Community-based mapping activity cards

**Appendix E** – Letters received