

Appendix C – Community-based mapping methods of analysis

Understanding Values: Mapping Activity

We conducted our landscape values assessment as part of the Sea Otter Open Houses hosted from June 20 to June 29 during the summer of 2023. Open house attendees were invited to complete the activity as they filtered through the event on a voluntary basis (Figure C-1, below).

We modified existing values elicitation approaches to fit the open house format. The values elicitation consisted of a mapping activity, which included an index card that prompted the participant to locate a special location along the coast by placing a sticker on a map of the area. We then asked them to describe why that place is important to them and to share their expectations for how the presence of sea otters might influence what is most important to them in that area. We emphasized that there were no right or wrong answers and let people deviate from the instructions to capture a wider array of participants and associated values. For instance, multiple participants selected the entire coastline instead of a single location. After completing the activity participants submitted their card to a collection box and had the option to place a physical pin on a wall map to share their response with their community. We used color coded pins for each open house to create an interactive display for attendees to track responses from previous communities along the coast.

Sample

We collected 345 responses from individuals attending the open houses, who located a total of 480 unique locations and associated values along the coastline of northern California and Oregon. We were able to estimate activity participation rate from the total number of attendees, including additional context from those who signed in for the event. We provide the full data table of responses in Appendix D, which includes transcribed activity cards (with the removal of any personally identifiable information). We prioritized privacy concerns; in response submissions were kept confidential at the event and not linked to the individual participant in any way. As a result, our interpretation of responses was conducted in context of the relationships between values and sea otter perceptions within and between communities. The findings reported here reflect a range of views from geographies and communities along the coast but should not be extrapolated to make assertions beyond open house attendees who participated in the activity.

Data Analysis

At the end of the open houses, we transcribed the activity cards into a database to analyze using a qualitative data analysis. We first analyzed text responses identifying landscape values

(why a place was important) using an inductive approach. Inductive analysis includes determining the groups and patterns that emerge from the data without preset hypotheses. Our two-step process included open coding, where responses were first segmented into relevant categories followed by axial coding where we drew connections between the codes to categorize landscape values into key overarching themes. Two coders iterated through the process to clarify and refine categorization definitions of landscape values for statistical reliability. Next, we analyzed responses reflecting on the potential impacts of sea otters using a sentiment analysis based on a deductive approach. We sorted responses into one of five attitudinal categories based on the directionality of expected impacts: **supportive** (focused on positive impacts), **concerned** (focused on negative impacts), **mixed** (which considered both positive and negative impacts simultaneously), **ambivalent** (impacts were reported as not important), and **unsure** (uncertainty about potential impacts). We also assigned ordinal numbers to these categories to indicate strength and direction of expected impact from -1 (concerned), 0 (mixed), and 1 (supportive). We assessed intercoder reliability using the Cohen's Kappa coefficient to quantitatively test if the level of agreement between coders happened at a higher amount than expected by chance.

We used a mixed-methods approach to quantitatively determine the relationships amongst landscape values and the relationship between landscape values and expected impacts. We first used a multivariate ordination to visualize the association between bundles of various landscape values. To do so, we used non-metric multidimensional scaling (NMDS) using a Sorenson distance index to visualize how dissimilar or similar landscape values are to one another based on their co-occurrence in responses. Landscape values that are closer to one another in multidimensional space represent a larger degree of association with one another, while values that are further away were less likely to be referenced together. We then fit the ordinal variable capturing attitudes towards sea otters (from concerned to supportive) to the ordination plot to visualize the correlation between landscape values and expected impact (presented as Figure 6 in the report).

A.)

The Oregon Coast
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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.

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.

B.)



C.)

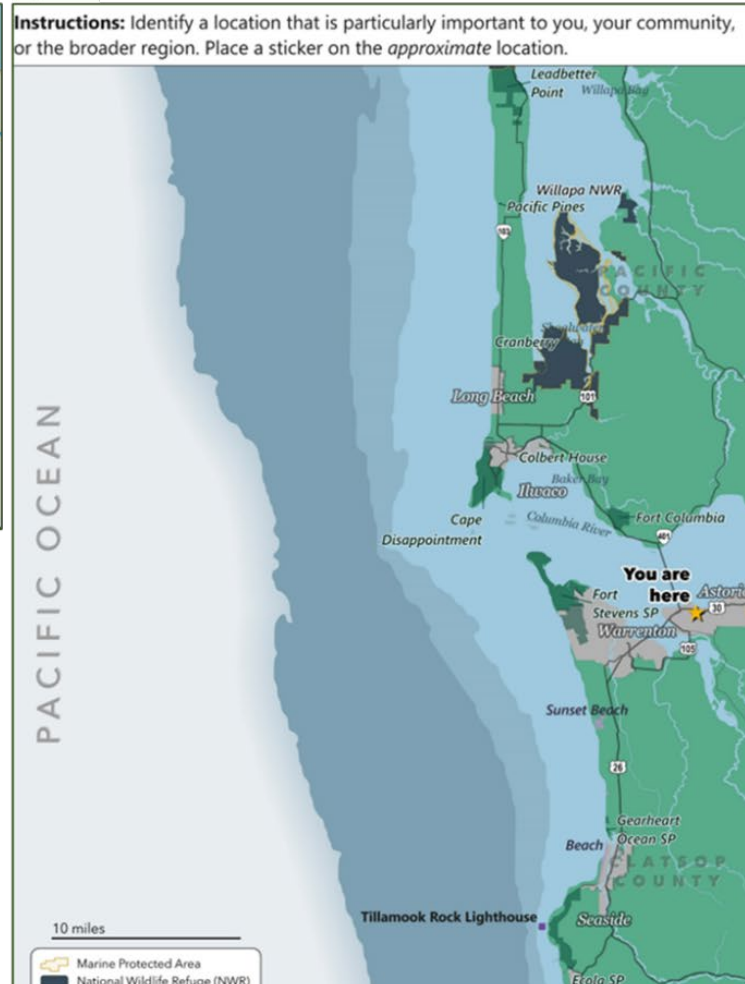


Figure C-1. Setup and example of community-based mapping activity cards for Sea Otter Open Houses. A) Front of activity card asking attendee to select a location, describe why it is important to them, and how they expect sea otter presence might impact what those things that are important to them (their values). B) The general setup to fill out cards C) Example of the back of an activity card where attendee could place a sticker to locate what location they selected.