

## AN ABSTRACT OF THE THESIS OF

Maria Renée Johnson for the degree of Master of Science in Marine Resource Management presented on August 17<sup>th</sup>, 2020.

Title: Connection to Community and Environment: How Work in the Seafood Processing Industry in Coos County, Oregon Creates a Sense of Place

Abstract approved:

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Seafood processing is an important industry along the Oregon coast as it provides employment and seafood to coastal communities as well as to international markets. The industry has been an integral part of the identity of Coos County since the establishment of salmon canneries in the late 1800's and has shifted over time due to changes in management, markets, environmental change, and the businesses in operation. Through qualitative semi-structured interviews, a mental mapping exercise, and the application of a sense of place lens, this research identified seafood processing workers' and employers' senses of place mediated by their work in the industry in several distinct processing plants in the region. Through their labor such as crab meat shaking, fish fileting, or quality control, workers describe a hyper-local sense of connection and belonging to the biophysical marine environment as well as to their co-workers and the community in which the product is sold. Employers experience a temporally and spatially broader sense of place that gives them the ability to adapt to dynamic conditions and heightens the resiliency of the industry. Additionally, community service providers were interviewed to provide an external perspective on the industry. They emphasized community-wide challenges such as a lack of public transportation and affordable housing; many of these challenges are pertinent to processing workers. In addition to its economic value, the sense of

identity and culture cultivated through the industry was described by community service providers and echoed in the sentiments of employers and workers, highlighting the seafood processing industry as a nonmaterial socio-cultural benefit in the region.

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Connection to Community and Environment:  
How Work in the Seafood Processing Industry in Coos County, Oregon Creates a  
Sense of Place

by  
Maria Renée Johnson

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Maria Renée Johnson, Author

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## CHAPTER ONE: BACKGROUND, RATIONALE, AND METHODS

"Space is the dimension of things being, existing at the same time: of simultaneity. It's the dimension of multiplicity." – Doreen Massey, *For Space* (2005)

### RESEARCH RATIONALE

The guiding question for this research is *how does work mediate seafood processing workers' and employers' sense of place in Coos County, Oregon?* The impetus for this look into the seafood processing industry is multi-fold. First, the tension between fisheries conservation successes and the economic struggles of the processing industry was brought to light through a series of conversations with stakeholders. This knowledge necessitated an empirical look into seafood processing plants to identify the specific challenges the industry faces as well as understand its vitality and resilience and therefore adaptive capacity. Seafood processing plants regularly face change and uncertainty related to management and policy, changing environmental conditions, and shifting global and local seafood markets. Obtaining a concrete understanding of these challenges can help guide the industry into creating response strategies when facing uncertainty in the future, enhancing the vitality and resilience of the industry. It is important to understand not only what the industry and these jobs provide economically, but also culturally, both to individuals and the wider stretch of the Coos County community. These social

and cultural values contribute to the vitality of the region; sense of place is one way to identify such values. Examining the seafood processing industry through the lens of sense of place provides insight into how individual participants experience and describe place and how their work in the industry mediates those connections. Additionally, it can highlight how participants' senses of place compare and contrast with one another and how their job tasks, identities, and other factors play into these variations. For example, gaining insight into the senses of place of both workers and employers can show how their roles at work (including the tasks it requires as well as the differing power positionalities) plays into differing experiences in the same locale. Managers and policymakers can use data obtained in research such as this to engage in more inclusive decision-making with attention to these social and cultural factors to be considered alongside environmental factors in regard to management.

In contrast to Oregon's fishing industry, which has frequently been a subject for research, the seafood processing industry aspect has remained largely understudied. It is not uncommon, both historically and today, for the workers who process seafood to be invisible while those who fish are glorified (Salinas Ferreira, 2015). This study fills a substantial data gap by capturing a snapshot into the industry during the time the research was undertaken. From an outside view, the seafood processing industry has remained a fairly mysterious aspect of the fishing industry in this area. Understanding seafood processing, an industry that plays such a significant role in the region both historically and currently, is key to understanding this part of the Oregon Coast in its social, economic, and ecological dimensions. Gaining a multitude of perspectives from those that are within the industry as well as those who hold an external view will allow for a multi-dimensional inquiry and will provide key information for managers. This thesis, which examines

the seafood processing industry through the lens of sense of place, is housed within the larger research project described. To date, there has not been any academic research into the sense of place mediated through work in the seafood processing industry.

Understanding the social dimensions related to fisheries, including seafood processing, is not only necessary for the reasons stated above but is also federally mandated by the 1996 revision of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as well as the National Environmental Policy Act (NEPA) of 1970 (Pacific Fishery Management Council, n.d.). Within the study site are Charleston, Coos Bay, and North Bend, all of which are considered fishing communities, as defined by National Standard 8 in the MSA (16 U.S.C. § 1851(a)(8)). A fishing community, by these terms, is one that is “substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community” (16 U.S.C. 1802 § 3(17)). NEPA requires an assessment of both economic and other social factors such as community identity to be included in any environmental impact assessments or statements (42 U.S.C. §§ 4321). Both of these mandates are congruent with an increasing emphasis on integrated social-ecological systems, that incorporate data from both social and natural dimensions.

## BACKGROUND

## Coos County: The People and the Place

On the southern coast of Oregon, current-day Coos County encircles the Coos Bay watershed and estuary which opens to the Pacific Ocean. As the sixth-largest estuary on the west coast (National Estuarine Research Reserve System Science Collaborative, n.d.), this region is ecologically important and has drawn several waves of people over time. An intricate system of inlets and sloughs create a unique landscape that sits between the ocean and mountainous coastal range. Currently, the nearly 1600 square-mile Coos County is comprised of seven cities (Coos County, Oregon, 2019) including Coos Bay, North Bend, Bandon, and Coquille as well as many unincorporated communities such as Charleston. Overall, the total population in Coos County increased from 60,273 people in a 1990 census count to 63,043 in 2010 (Communities Reporter Total Population, 2020), roughly half of which are located in the Coos Estuary region.

Demographically, Coos County is majority white (86.9% in 2010) and has changed over time with an influx of those who identify as Hispanic or Latino from just over 2% of the population in 1990 to over 5% in 2010. This is congruent with the statewide trend of a growing population of Latinos that reached 12% of the overall population in 2014 (Ruffenach et al., 2016). Less than 8% of the Coos County population is Asian, American Indian or Alaska Native, Black, multi-racial, or not specified as of the 2010 census (Communities Reporter Race & Ethnicity, 2020). Demographic change can surely shift the identity of a place; a change in the overall demographics of the region will certainly be reflected in spaces such as the seafood processing industry.

It is essential to acknowledge that Coos County is the traditional homelands of the ancestors of the Confederated Tribe of Coos, Lower Umpqua, Siuslaw, and Coquille people (Norman et al., 2007). This is very much relevant to the current-day context of this place, even though this research focuses largely on post-colonial history specifically related to the development of the seafood processing industry. As Euro-American settlers were in the very early stages of opening Salmon (*Oncorhynchus* sp.) canneries in the 1860's and 70's (Adams, 1982), the tribes were being rounded up, removed, imprisoned, and dying in mass numbers due to disease and maltreatment (Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, n.d.). These stories are intertwined, and this point in history marked significant social and environmental shifts in Coos County, driving it towards where it stands now. Examining *sense of place* can reveal the intricate ways in which the past is relevant to and constructing the present. Therefore, this inquiry must be rooted in a long view of history with a discerning ear to the multitude of stories that are told, both loudly and quietly.

In different waves over time, settler communities in the region were primarily focused on capitalizing on the natural landscape and marine environment, extracting resources such as gold, lumber, coal, salmon, and eventually producing agricultural goods, particularly dairy. Located between the ports of San Francisco and Portland, the Coos Bay Estuary became a convenient point from which to move some of these commercialized products, once efficient means of transportation were available (Norman et al., 2007). This heavy economic dependence on extractive industries, however, made community members more vulnerable to consequences of overharvesting and market fluctuations, resulting in boom-and-bust cycles. For example, Coos Bay was "one of the leading forest-products manufacturing centers in the world by the middle of

the twentieth century" (p. 5) ... and "seven out of ten jobs in Coos Bay were timber related" (Robbins, 1988, p. 10); then, 1979 marked the beginning of a series of timber mill closures, economically devastating the area. At the same time, the fishing and processing industries had been growing and diversifying, following their own boom-and-bust cycles (Adams, 1982). This led to the establishment of Charleston, located on the mouth of the Coos Bay Estuary, that continues to be the center of the fishing – both commercial and recreational– and processing industries today (Norman, et al., 2007). The current economy is focused on forest products, fishing, agriculture, and a growing tourism and service industry (Coos County, Oregon. (2019). Unemployment rates in Coos County were 7.7% as compared to 6% in all of Oregon, based on data from 2014 - 2018 (Communities Reporter Unemployment Rate Total Population, 2020). This thesis was written during the Covid-19 pandemic, the impacts of which will have surely changed the seafood and processing industry and the larger social and economic landscape of the Coos County region. All of the data for this research was collected prior to Covid-19 cases reported in the United States.

### The History and Current Picture of the Seafood Processing Industry

Coastal Oregon and the Pacific Northwest have a long and evolving history in seafood canning and processing. The Hudson Bay Company had begun to establish global markets for salmon that they purchased from tribal communities in the 1830's (Adams, 1982). Settlers began their own fishing operations around 1852 in the area now called Seattle, Washington, expanding into other rivers in the Pacific Northwest overtime. At the time, fisheries in the Coos County area



were slow to form due to its geographic isolation (Cobb, 1917). Industrialized processing in the state began in the late 1860's in the form of salmon canneries, primarily centralized around the Columbia River (Salinas Ferreira, 2015). Pushed away from dwindling salmon runs in California, R.D. Hume opened the first salmon cannery on the Oregon coast in 1876 (Adams, 1982) and the Hume brothers eventually became owners of about half the canneries that had been established by 1881. While white settlers owned the canneries and held managerial positions, laborers were almost entirely Chinese because they were said to "cause little trouble" and were "always eager" to work long hours. The Chinese Exclusion Act of 1882 changed the ethnic makeup of the workforce, with Japanese, Filipino, Puerto Rican, Mexican (Cobb, 1917) and some Indigenous (Salinas Ferreira, 2015) laborers filling the positions.

The market for coal and lumber began to struggle during the 1880's, leading to hardship and an eventual opportunity for economic diversification, the timing of which coincided with an increase of salmon canning operations in Oregon (Adams, 1982). Two salmon canneries were opened in the Coos County region in 1887 (Cobb, 1917), signaling the beginning of commercial seafood processing in the region and expanding the size of fishing efforts (Adams, 1982). This salmon industry fluctuated for the following several decades. Both cold storage, which was in Coos Bay by 1907, and the introduction of the railroad in 1916 changed the industry and led to the development of a fresh and frozen salmon market rather than canned. For example, frozen salmon were able to be shipped to Europe and eastern markets and supply could be distributed throughout the year, rather than only when salmon was abundant. The shift in production towards frozen as well as mild-cure salmon contributed substantially to the last cannery shutting down in 1918. Salmon fishing efforts, historically done by gillnetting and some seining, changed

to trolling made possible by motorized engines in the late 1800's and early 1900's (Adams, 1982).

Throughout the twentieth century, other marine species were targeted and processed at different times, fluctuating by their own unique circumstances driven by changes in legislation, abundance, technology, and market demand. Many followed a 'boom and bust' cycle. The development and changes of fisheries and processors in the Coos County area is well outlined by Rodger P. Adams work (1982); Striped Bass (*Morone saxatilis*) and American Shad (*Alosa sapidissima*) were sometimes caught along with salmon. Bass were eventually commercially pursued in 1922. Fisheries diversification and increased effort in commercialized products in the Coos County area led to the establishment of seafood processing facilities in the 1930's, specializing in what was caught in the region (Adams, 1982). Pacific Halibut (*Hippoglossus stenolepis*) were caught locally and shipped nationally. A restrictive bag limit on Dungeness Crab (*Metacarcinus magister*) was repealed in 1933 which led to an increase in their harvest and processors canned the product. Pacific Sardine (*Sardinops sagax*) were not targeted in Oregon's waters until a 1935 shift in legislation made sardine reduction legal which led to the establishment of offshore and onshore reduction plants in the state until the fishery collapsed in the 1950's. Through Sardine fishing, it was discovered that Albacore Tuna (*Thunnus alalunga*) were in Oregon's waters; they were targeted beginning in 1936 and continue to be today. The otter trawl was first used in the state in 1937 which targeted species such as the Spiny Dogfish (*Squalus suckleyi*) and Soupfin Shark (*Galeorhinus galeus*), primarily for liver-extracted vitamin A needed during World War II, until a synthetic version was produced and the fishery ended (Adams, 1982). Oregon's groundfish fishery, which targets over 90 fish species off the West

coast (NOAA Fisheries, n.d. a), emerged after the collapse of Sardine, as the same boats were adapted to target them (Bonacker, 1979). Commercial fishing for Pink Shrimp (*Pandalus jordani*) began in 1957 after shrimp peelers were invented, making the fishery economically feasible (Adams, 1982). According to Coppedge & Smith (1970), "employment in this [seafood distribution and processing] industry increased 55 percent during the 10-year period 1958 to 1968".

The fishing and seafood processing industries continue to be an integral component to the culture and economy of coastal Oregon, including Coos County. In 2016 and 2017, in the entire state of Oregon, over 100 marine species are captured with the primary fisheries being Dungeness crab, pink shrimp, Pacific whiting and other groundfish species, albacore tuna, salmon, and Pacific halibut, according to a report by ECONorthwest in 2019. In 2017, there were 1,172 people employed Oregon-wide in the processing industry distributed between 32 seafood processing plants. The number of plants grew to 34 by the following year. Some seafood stays within local markets, as it is sold dockside as well as in restaurants and shops; much of the product is exported internationally with the primary countries import being Canada, the United Kingdom, Ukraine, Japan, and China (ECONorthwest, 2019). In Coos County, there are currently nine seafood processing facilities, four of which are oyster operations. Based on interview data from this research, the other processors range from large operations that process a fairly wide range of marine species with 75 - 200 employees, to smaller processors that sometimes specialize in one species or a range of species and have relatively small workforces, sometimes as few as 8-10 people. The species processed, products produced, and workforce size changes with seasons and

product availability, as well as are influenced by changes in the environment, policy, and markets.

### Moments of Adaptation: Fisheries Policy and Environmental Change in Oregon

Throughout the years, Oregon's fisheries have changed and been challenged through the implementation of different policies, management strategies, and fluctuations in the marine environment. The dynamic and uncertain nature of these factors has certainly played into the history and current context of Coos County. Communities with high dependence on natural resources tend to have considerably less economic stability – five to ten times less – than an average community in the US (Freudenburg and Frickel, 1994; Shaw and Conway, 2007).

Though there are many, some of the most notable events or changes that have had effects on this region's fisheries and processing plants from the 1970's and onward include the Magnuson-Stevens Fishery Conservation and Management Act, the West Coast groundfish disaster, strong El Niño events, as well as the currently proposed Department of Environmental Quality (DEQ) mandates.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976 was a major shift in United States (US) ocean policy. Broadly, this act granted the US fishing sovereignty by the extension of national fishing jurisdiction to 200 nautical miles offshore rather than 12 and established eight regional fishery management councils tasked with developing fisheries management plans adhering to national standards. (NOAA Fisheries, n.d. b). Perhaps one of the

most prominent changes in Oregon following this act was that it gave the US ownership of the offshore Pacific Hake or Whiting (*Merluccius productus*) fishery (Bonacker, 1979). The MSA has evolved over time, with two primary revisions including the Sustainable Fisheries Act of 1996 which aided in preventing overfishing, added three new national standards, and incorporated fish habitat as a critical component for managing fisheries. As a response to declining stocks and mandates of the MSA, catch limits were set for groundfish along the West Coast. While this enabled the recovery of some stocks overtime, this had a ripple effect into the social sphere, resulting in large-scale unemployment and the eventual declaration of an economic disaster in 2000. (Shaw and Conway, 2007). In 1983 and 1984, a strong El Niño event characterized ocean conditions on the Pacific Coast leading to an overall decrease in fisheries landings, with particular impacts on pink shrimp larvae survival, salmon harvest, and groundfish landings, as noted by Radtke & Davis (2000). For example, the volume of U.S. west coast onshore shrimp landings were 40,799 (thousands of round pounds) in 1981 and 10,678 by 1984 (Radtke & Davis, 2000). The El Niño event of 1997 and 1998 was stronger (Shaw and Conway, 2007) and had implications stemming from changes in upwelling patterns (Peterson, n.d.).

The second revision to the MSA was the 2007 Reauthorization Act which enhanced the role of science in fisheries management, set catch limits on an annual basis, and moved to address illegal, unregulated, and unreported (IUU) fishing internationally. In an effort to reduce overcapitalization on fisheries, this amendment also promoted catch-shares – also known as quotas, ITQ's, or rationalization – which grant ownership and rights to the catch-share holders in a privatization process (Moon & Conway, 2016). Not only did the catch-share program have an impact on the marine ecosystems, as it intended, but also had an effect on Oregon's coastal

communities. Some describe a positive outcome such as increases in the standard of living (Russell, et al., 2016), while others say that the program has made it more financially challenging to enter fisheries or gain upward mobility within the industry (Donkersloot & Carothers, 2016).

Currently, seafood processors in Coos County are facing new requirements – a revised general permit – as federally mandated by the Environmental Protection Agency (EPA) and carried out by the Oregon Department of Environmental Quality (DEQ). In order to implement the Clean Water Act and as a response to concerns related to the dumping of seafood waste products such as bones, shells, and chemicals, DEQ has regulated the processing industry since 1982 (Fisher, 2019). This has been achieved by the implementation of the National Pollution Discharge Elimination System (NPDES) permitting program under which the 900-J general permit was created. Many processing plants' permits expired in 2011 and were operating under an administrative extension (DEQ, 2020). The proposed revised general permit was generated due to recommendations provided by an outside consultant hired by DEQ in 2015 in order to be EPA compliant; this would affect a couple seafood processors in Coos County and would mean a significant financial investment to engage in the authorized collection, treatment, and control of wastewater discharge following outlined requirements (DEQ, 2019). Currently, there are ongoing discussions around the details of the new permit (DEQ, 2020a).

### Looking Through the *Sense of Place* Lens

It was determined that a humanistic geography perspective for the sense of place inquiry was most appropriate, as sense of place methodology in geography tends to be qualitative, phenomenological, and use semi-structured interviews as a primary method. Additionally, the geography lens tends to examine sense of place as a whole concept, rather than breaking it down into parts such as place identity and place dependence, as sometimes occurs in other approaches such as environmental psychology, for example (Mendoza & Morén-Aleret, 2012). Within the broad academic discipline of geography, humanistic geographers have inquired specifically about sense of place since the 1970's. Buttner (1976), Relph (1976), and Tuan (1977) can be acknowledged as having set the foundation of 'sense of place' inquiry from a humanistic geography perspective. Since that time, sense of place has been extensively defined and redefined, and approached methodologically through a handful of disciplines, including environmental psychology, geography, and social anthropology (Wartman & Purves, 2018). Sense of place has become one way for social scientists to understand the vast array of human relationships with the environment. It has become an increasingly common approach in communities that are embedded in a natural environment or involved with natural resource extraction, such as in the cases of fishing and farming. Existing literature on sense of place in the fishing sector include Urquhart and Acott's (2014) study on Cornish fishing communities in which they examined the relationships between fishing and cultural ecosystem services through sense of place, finding that "inshore fisheries do not just provide a source of income for fishers, but they also contribute to the well-being benefits such as cultural identity, recreation, quality of life, heritage and social cohesion in coastal communities" (Urquhart, et al. 2014). This work has been undertaken in the farming industry as well, such as in Quinn and Halfacre's (2014) study on South Carolina farmers' sense of place and attachment to their land. While sense of place has

been directly explored in a variety of additional fisheries contexts in various regions of the world such as in North Carolina's fishing communities (Khakzad & Griffith, 2016), in Northwest Ireland with local fishers in the context of politics and identity (Donkersloot, 2010), as well as emergent in Holen's (2014) findings in rural Alaska's fishing communities, it appears to be entirely empirically unexamined in the seafood processing sector of marine fisheries.

As defined by Wit (2013), sense of place is “the human experience of place in all its dimensions: physical, social, psychological, intellectual, and emotional. It includes the beliefs, perceptions, and attitudes held toward a place, as well as residents’ conscious and unconscious attachments to place, their feelings about local political and social issues, and their attitudes and feelings toward other places”. This lens is a way to understand the emotional experience, significance, and meaning of place to an individual or to a group of people. Sense of place does not solely reflect the natural environment, but human systems and communities as well, sometimes referred to as the “cultural landscape”. There are many aspects of human communities that are revealed by a sense of place inquiry. Sentiments held by and experiences of certain people or groups of people in how they relate to a place, think about a place, or feel welcome in a place can reveal certain social structures and practices, power distribution, control (Stokowski, 2002) and dominant narratives, as well as the relationships between individuals or groups. Personal or collective values may also be revealed which can be particularly useful in natural resource management and policy-making when the needs and values of various stakeholders must be considered. In short, it can lead to more inclusive decision-making (Quinn et al., 2019; Masterson et al., 2019). Further, sense of place links with individual and collective identity, becoming especially



important for particular groups such as migrant communities (Attanapola, 2006), in part by increasing security and assurance for various identities (Massey, 1991).

Sense of place research explains how people experience their environment and also how they shape and respond to it. In other words, sense of place is both a “driver and an outcome of socio-ecological processes” (Masterson et al., 2017). Cresswell (1992) describes this idea by stating that those who hold a dominant sense of place play a more significant role in shaping human-ecological systems (Masterson et al., 2019). In addition, Devine-Wright (2011) describes how place attachment, or how one bonds with a particular locale, “predicts attitudes towards specific proposed environmental change”. The beliefs and experiences a person has in a place also correlate to how they might participate in any local planning efforts (Manzo & Perkins, 2006). Given these reasons, the link between better understanding these social dynamics and doing any kind of natural resource management is clear.

In this research in particular, the sense of place lens will allow for a look into the seafood processing industry and how it connects to the broader area of Coos County and beyond. Workplace geographies in general have been few and far between in academic research, as described by McMorran (2012) who states that, “work has been largely absent from the geography agenda” but cites a handful of geographers that explore work and labor within the context of place such as Castree, et al. (2004). Some of these works explore the spatial conditions and sense of place at the worksite itself while others examine labor and social structures (Massey, 1984), or labor markets (Peck, 1996). This research seeks to understand sense of place mediated through work, both at the immediate worksite and beyond. An employed

person in the United States 15 years or older spends an average of 7.62 hours per day working, as of 2019 (U.S. Bureau of Labor Statistics, 2020). Therefore, understanding how work facilitates the experience of place is fairly significant; for example, does a specific work task contribute to an experience, understanding, or a connection to the world around an employee? If so, which part of the world, and how does it differ from others' experiences and sense of place? As far as the author is aware, this has not been the intent behind any sense of place through work research, and therefore serves to fill a gap within the humanistic geography field.

### Mental Mapping as an Insightful Research Tool

The early concept of mental and cognitive maps emerged with a landmark study by Tolman (1948) which explored the relationship between rats and their environment. Mental mapping methodology through the process of sketching a place sought to illustrate a human community's connection to an urban environment in Lynch's *The Image of the City* (Lynch, 1960). This idea has since been applied to humans with the development of various methodological techniques, primarily used to illustrate how a person or people relate to a given place. Mental mapping is now used most commonly in the disciplines of humanistic geography and cognitive psychology (Soini, 2001), a process that typically involves images drawn on paper (Soini, 2001; Hayes, 1993) that are emblematic of a person's mind (Mark, et al. 1999). As defined by The Dictionary of Human Geography, mental maps are "spatially organized preferences, or distorted egocentric images, of place, mentally sorted by individuals and drawn upon as resources in their interpretations of spatial desirability, their organization of spatial routines, and their decision-

making transactions as satisfying agents .... an amalgam of information and interpretation reflecting not only what an agent knows about places but also how he or she feels about them” (Johnston et al., 1986, p. 432). A mental map can be thought of as an abstraction of reality (Tuan, 1975) used as a method of externally representing the human-environment relationship. Maps can reveal scale, symbols, human cognition, relationships, and social networks (Powell, 2010). Additionally, they are thought of as direct reflections of the culture to which the map-maker is connected (Soini, 2001). They are a useful tool in understanding a person's attachment to or sense of place (Soini, 2001) and provide a non-verbal space to communicate which caters to varying intelligence styles and heightened inclusivity in the data collection process (Gardner, 1993; Giesecking, 2013). Discussing and interpreting the map is another revelatory process in which more understandings of a place are made. In this sense, mental map-making and deciphering is a complex discovery process for both the interviewer and participant that helps make greater sense of a relationship to a given place. Mental mapping methods are used as practical additions to qualitative interviews, focus groups, and ethnographic research, leading to more comprehensive data (Giesecking, 2013).

In the case of this research, asking the participants to engage in mental mapping provides a visual representation of their sense of place, both in regard to work in seafood processing and outside of work. This process both clearly shows the geographic scale at which they commonly inhabit use and which places are most important to them. It can show which aspects of their community and biophysical environment they engage with on a regular basis, supplementing what they verbally describe about their sense of place. This mental mapping exercise used in

conjunction with the semi-structured interviews provide a fuller picture of how participants experience and describe their senses of place.

## METHODS

### Statement of Ethics

Prior to any on-the-ground research taking place, all relevant materials were submitted to the Institutional Review Board (IRB) for review and approval. This was necessary, as in the case of any research involving human subjects, to remain ethical and in order to minimize potential risks to both research participants and to the university. In order to communicate the intent of the research project, the commitment to confidentiality, potential risks in participation, as well as to state the rights of each participant, a verbal consent card in either English (Appendix A) or Spanish (Appendix B) was developed as part of the protocol. This was read aloud in either English or Spanish at the onset of each interview before participants could ask questions and give verbal consent to the recording of the conversation. All participants were given the contact information of the researcher in the case that they had follow-up questions after the interview. Data, once obtained, was scrubbed of any identifiers and safely stored on computers and databases to which only the researchers had access. Participants were given pseudonyms and referred to only by these in the results and discussion sections. Extra care and consideration were taken when working with particularly vulnerable groups such as minoritized populations.

## Researcher Positionality

As with all social science research, it is critical to be cognizant of and directly acknowledge a researchers' positionality. The breadth of this study— from methodological development to conducting interviews-- was primarily done by a research team comprised of faculty from Oregon State University. I, as a graduate student, carried out some of the interviews, transcribed, coded, and completed an analysis of most of the interviews, as well as wrote this thesis; these are the areas that my positionality is most relevant. Generally, my identities can be defined as white, college-educated, queer cis-gendered female. Many of these identities are different than the identities of the majority of participants; this, combined with the fact that I was new to the state of Oregon very much situated me as an "outsider" to the Coos County region. I've done my best to carry an awareness of this and the inherent power dynamic between interviewer-participant, and to not interject my opinions or personal values into the interview process. The lens I generally tend to look through is one of pattern, process, relationship, and connectivity-- particularly between one person and another, or between people and the space they inhabit. I strive to critically identify and examine social structures and historical narratives that inform the present as well as to hold empathetic space for people's stories, opinions, and expressions of their lived experiences. I don't always do this well, and this process is, of course, informed by my own experiences, perspectives, cognitions, biases, and privileges. I believe all experiences are valid and that every person makes sense when you get to know them more deeply and see it as a responsibility to work others' words and stories.

Previous to making the leap to become a graduate student, I lived and worked in México's Gulf of California, in Bahía de Kino, Sonora for many years. I had become utterly entranced by the fishing communities there and carried out research and creative projects that strived to understand and amplify the lived experiences and traditional knowledge of fishers there. Not only was I moved by the knowledge, wisdom, stories, and dedication in many of their stories, but I was also frustrated by how disconnected their fishing and processing work was from the seafood consumers in other countries, particularly in the U.S. As a native Arizonan, much of the seafood supplied to the region was from the Gulf of California, caught and processed by the hands of the people I was getting to know in Sonora. I became dedicated to wanting to connect the multiple "worlds", and illuminate the entire chain of connectivity, from the natural history and vibrancy of a fish as a being swimming in the sea, to the wealth of knowledge required to successfully capture the fish, to the shifting environmental conditions as well as seasonal and market influences, to the people in hair nets standing in puddles of blood in the open-air processing plant, and the eventual export of what would then be called a "product" to some plate, somewhere across a border-- all of this process interwoven with an ever-shifting, complex, and often dark socio-political landscape. Leaving this region was heart-wrenching, but I was thrilled to have the opportunity to delve into the human experiences related to the seafood processing industry in Oregon. Though I have the background that I do, I feel fairly new to an academic understanding of the current-day and historical landscape of Oregon's coastal communities, social and race theory, US fisheries management, and the methodology used in this particular project. These gaps have begun to be filled in by way of my work as a graduate student, and this is my effort to synthesize and apply that knowledge as best I can.

## Overall Research Process

This thesis work is housed inside of a larger project; the overarching question that guided this mixed-method qualitative research was: *what keeps seafood processing work vital, and how does this connect to coastal community vitality?* This, as well as the goal of understanding changes over time, challenges, opportunities, and demographic change, particularly in the Latinx workforce, within the industry led this work. The lens of 'sense of place' was applied as a means to examine these lines of inquiry and approach this thesis which explores how the seafood processing industry mediates a sense of place for workers and employers. An extensive literature review was undertaken to fully understand the documented aspects of the seafood processing industry, both historically and present day. Much of this review affirmed assumptions that very little information about the industry has been published, save a handful of in-depth studies (Chong, 1978; Bonacker, 1979; Adams, 1982; Brown, 1995; Radtke & Davis, 2000) that served as historical "snapshots" in time or outlined specific events relevant to the fishing and processing industry within the study area. Very little information about the current state of the seafood processing industry in Coos County exists, outside of brief news articles. This thorough understanding of previous documentation and affirmation of the research gaps allowed for the design of relevant interview guides.

Three interview guides were developed, each targeted to a specific audience of participants. The first guide was designed for the managers or owners (employers) of seafood processing plants, which covered topics including characteristics of the processing plant, work procedures and

protocols, changes over time, how the industry links to community, external influences, and sense of place (Appendix C). The second guide was aimed at the workers within processing plants that covered a description of work tasks, recruitment, sentiments of work, changes over time, household makeup, and sense of place (Appendix D). This "worker guide" was translated into Spanish in order to conduct the interview with Spanish-speaking workers, who made up roughly half of this group of participants. The last guide was designed for community service providers in a variety of social organizations in the Coos County area which covered questions related to demographics, economics, resources and services, changes over time, and the seafood processing industry (Appendix E).

### Participant Identification

Research in the form of semi-structured interviews took place during the summer and fall of 2019 as well as in the winter of 2020. Previous to this, several PIs spent time familiarizing themselves with the Coos County area and doing initial outreach to begin developing relationships. One PI has lived in the study region for years and has built relationships with individuals and organizations that helped guide the process of finding participants. Outside of this, participants were initially identified by a variety of different methods. Seafood processing plant employers were called, emailed, or approached directly at their place of work and asked to interview. Because the aim for the worker interviews was to have representation from a wide range of seafood processing facilities and positions, as well as of both white and Latinx workers, the search for participants was done with this intent. Worker participants were primarily accessed



by way of a snowball sampling technique (Auerbach & Silverstein, 2003; Berg, 2001; Bernard, 2011) as well as by directly asking employers to see if anyone in their staff was interested in interviewing, and, in some cases, by relying on a gatekeeper to help initiate contact. Interviews with both workers and managers were done in person. Community service providers were called or emailed directly after identifying community organizations or agencies that the researchers believed could provide insight into the social sphere of Coos County. Some of these interviews were done in person and others were done via telephone call. Demographic information including gender, age, race/ethnicity, and level of education was collected for each worker and employer participant in the form of a piece of paper to fill out. Each interview was conducted in the participants preferred language and location; all were recorded and lasted anywhere from 45 minutes to 90 minutes. Interviews were conducted until thematic saturation (Auerbach & Silverstein, 2003) was reached within all three groups of people.

The total number of interviews conducted was 26, which included six employers, six white workers, nine Latinx workers, four community service providers, and one additional interview with an entity who has insight into the seafood processing industry and history in Coos County. Due to timing restraints for the Spanish-language transcriptions, this thesis only focuses on the six white workers, four community service providers, and six employers. The white workers interviewed consisted of three females and three males, ranging from ages 19 – 55. Their levels of education were generally high school or GED, though one had not completed high school and two had some college experience, one having completed a degree. Each worker had a different job in the processing plant at which they worked; these positions ranged from fileter to quality control to retail to general processor. Length of time in the industry ranged from a few months,

to several years, and in two cases, 15 – 32 years. In terms of the employers, one was Korean while the others were predominantly white. Four of them were males while the remaining two were female. Most held the job title of "manager", while one was the owner of the processor. One of them had been in their position for three years, while the others ranged from 9-43 years. Community service providers each specialized in different social issues or community dimensions, including housing and anti-poverty work, health and mental health, as well as local politics. Additional demographic information on these providers was not collected, as it was not relevant to this research. In order to gain multiple perspectives, six processing plants were included in this study which ranged from small single-species operations with few employees to larger plants that process a multitude of species and have up to 75-200 employees.

### Sense of Place Inquiry

A series of questions specific to sense of place was included in all three interview guides. The development of these was guided by the intent to understand how participants defined the geographic boundaries of the region they currently inhabit, how they experienced their relationship to that place, how that compared to other places, and how this played into their sense of belonging. These specific questions fortified a more general understanding of how each participant experienced and interpreted their sense of place in their broader lives, while many of the questions in other parts of the interview process illuminated how sense of place was mediated through work in the seafood processing industry. Gaining insight into the senses of place of both workers and employers can show how their roles at work (including the tasks it requires as well

as the differing power positionalities) plays into their differing experiences in the same geographical locale.

As an additional mode of inquiry into sense of place, all seafood processing workers were asked to perform a mapping exercise. At the end of each interview, using an adapted mental mapping methodology (Soini, 2001), participants were asked to reflect on the place they currently inhabit. On a blank piece of paper, they were asked to draw the place they "live, work, and play"; this prompt was intentionally broad, as to encourage them to scale the map in the way that felt right to them. There were no restrictions on what they could or could not include on their map, or how large the geographic boundaries could be. When finished with the initial map-drawing, participants were asked to identify and label the most important places on their map. If additional probing questions were necessary, participants were asked to explain their personal relationships with these places and why they were of specific importance. This process took place while continuing to record the conversation which resulted in a rich, more free-flowing addition to the structured sense of place questions in the first part of the interview. This mapping exercise helped to clarify how participants spend their days, what they value, and what their spatial experience looks like.

## Data Analysis

All interviews were transcribed, then files were uploaded into NVivo12 software. Grounded theory data analysis techniques were used including open coding, axial coding, and selective

coding (Creswell & Poth, 2018; Strauss & Corbin, 1990). Grounded theory is an inductive approach that leads to the development of a theory based on what surfaces from the data and recognizes each participant as a contributor in the emergence of this theory (Creswell & Poth, 2018). Each category of interview – employers, workers, and community service providers – was coded separately. Each transcript was read multiple times to obtain the general gestalt of the person and their story; notes were taken in this process to refer to at a later time. An open coding technique was applied initially in order to categorize phenomena that emerge from the interview text line by line, resulting in a lengthy list of codes. Next, the process of axial coding took place in which the initial list of codes were reorganized based on their relatedness, in order to arrange and integrate the codes into a cohesive list of codes and subcodes. This step in the process identified categories and themes that connected back to the initial research questions. Finally, selective coding was employed by rereading the transcripts and coding specifically with pre-identified themes in mind. This three-part approach resulted in thorough and organized list of codes in all three categories of interview that could then be further analyzed.

Mental maps were analyzed with the intent of understanding a) the scale and geographic boundaries of the participant's sense of place; and b) the most significant places within the drawn area and what they represent to the participant. Map data was used as a supplement to the interview data and were analyzed using an adapted framework of Lynch (1960) by taking into account the edges (geographic boundaries) and landmarks used. The places on each map were translated into a written list and coded to see what themes emerged from this set of data. This was combined with the data gathered in the verbal interview process in order to depict a more

comprehensive sense of place, derived from both responses to interview questions and the mental mapping exercise.

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## CHAPTER TWO: MANUSCRIPT

### ABSTRACT

Seafood processing is an important industry along the Oregon coast as it provides employment and seafood to coastal communities as well as to international markets. The industry has been an integral part of the identity of Coos County since the establishment of salmon canneries in the late 1800's and has shifted over time due to changes in management, markets, environmental change, and the businesses in operation. Through qualitative semi-structured interviews, a mental mapping exercise, and the application of a sense of place lens, this research identified seafood processing workers' and employers' senses of place mediated by their work in the industry in several distinct processing plants in the region. Through their labor such as crab meat shaking, fish fileting, or quality control, workers describe a hyper-local sense of connection and belonging to the biophysical marine environment as well as to their co-workers and the community in which the product is sold. Employers experience a temporally and spatially broader sense of place that gives them the ability to adapt to dynamic conditions and heightens the resiliency of the industry. Additionally, community service providers were interviewed to provide an external perspective on the industry. They emphasized community-wide challenges such a lack of public transportation and affordable housing; many of these challenges are pertinent to processing workers. In addition to its economic value, the sense of identity and culture cultivated through the industry was described by community service providers and echoed in the sentiments of

employers and workers, highlighting the seafood processing industry as a nonmaterial socio-cultural benefit in the region.

## INTRODUCTION

The seafood processing industry has a long history in Coos County, Oregon, and has endured a fair amount of challenge and change. With its emergence in the Pacific Northwest in the 1830's, settlers with the Hudson Bay Company had established global markets for salmon purchased from tribal communities, which evolved into their own fishing operations around 1852 (Adams, 1982). Fisheries in the Coos County area were slow to form due to its geographic isolation (Cobb, 1917). Industrialized processing in the state began in the late 1860's in the form of salmon canneries, primarily centralized around the Columbia River (Salinas Ferreira, 2015). While white settlers owned the canneries and held managerial positions, laborers were almost entirely Chinese until the Chinese Exclusion Act of 1882 changed the ethnic makeup of the workforce, with Japanese, Filipino, Puerto Rican, Mexican (Cobb, 1917) and Indigenous (Salinas Ferreira, 2015). The market for coal and lumber began to struggle during the 1880's, leading to hardship and an eventual opportunity for economic diversification, the timing of which coincided with an increase of salmon canning operations in Oregon (Adams, 1982). Two salmon canneries were opened in the Coos County region in 1887 (Cobb, 1917).

Throughout the twentieth century, other marine species were targeted and processed at different times, fluctuating by their own unique circumstances driven by changes in legislation,

abundance, technology, and market demand. Many followed a 'boom and bust' cycle. The development and changes of fisheries and processors in the Coos County area is well outlined by Rodger P. Adams work (1982); Striped Bass (*Morone saxatilis*) and American Shad (*Alosa sapidissima*) were sometimes caught along with salmon. Bass were eventually commercially pursued in 1922. Fisheries diversification and increased effort in commercialized products in the Coos County area led to the establishment of seafood processing facilities in the 1930's, specializing in what was caught in the region (Adams, 1982). Pacific Halibut (*Hippoglossus stenolepis*) were caught locally and shipped nationally. A restrictive bag limit on Dungeness Crab (*Metacarcinus magister*) was repealed in 1933 which led to an increase in their harvest and processors canned the product. Pacific Sardine (*Sardinops sagax*) were not targeted in Oregon's waters until a 1935 shift in legislation made sardine reduction legal which led to the establishment of offshore and onshore reduction plants in the state until the fishery collapsed in the 1950's. Through Sardine fishing, it was discovered that Albacore Tuna (*Thunnus alalunga*) were in Oregon's waters; they were targeted beginning in 1936 and continue to be today. The otter trawl was first used in the state in 1937 which targeted species such as the Spiny Dogfish (*Squalus suckleyi*) and Soupfin Shark (*Galeorhinus galeus*), primarily for liver-extracted vitamin A needed during World War II, until a synthetic version was produced and the fishery ended (Adams, 1982). Oregon's groundfish fishery, which targets over 90 fish species off the West coast (NOAA Fisheries, n.d. a), emerged after the collapse of Sardine, as the same boats were adapted to target them (Bonacker, 1979). Commercial fishing for Pink Shrimp (*Pandalus jordani*) began in 1957 after shrimp peelers were invented, making the fishery economically feasible (Adams, 1982). According to Coppedge & Smith (1970), "employment in this [seafood

distribution and processing] industry increased 55 percent during the 10-year period 1958 to 1968".

Resonant with its history, the fishing and seafood processing industries continue to be an integral component to the culture and economy of coastal Oregon, including Coos County. In 2016 and 2017, in the entire state of Oregon, over 100 marine species are captured with the primary fisheries being Dungeness crab, pink shrimp, Pacific whiting and other groundfish species, albacore tuna, salmon, and Pacific halibut, according to a report by ECONorthwest in 2019. In 2017, there were 1,172 people employed Oregon-wide in the processing industry distributed between 32 seafood processing plants. The number of plants grew to 34 by the following year. Some seafood stays within local markets, as it is sold dockside as well as in restaurants and shops; much of the product is exported internationally with the primary countries import being Canada, the United Kingdom, Ukraine, Japan, and China (ECONorthwest, 2019). In Coos County, there are currently nine seafood processing facilities, four of which are oyster operations. The other processors range from large operations that process a fairly wide range of marine species with 75 - 200 employees, to smaller processors that sometimes specialize in one species or a range of species and have relatively small workforces, sometimes as few as 8-10 people. The species processed, products produced, and workforce size changes with seasons and product availability, as well as are influenced by changes in the environment, policy, and markets.

### The Place: Coos County, Oregon

On the southern coast of Oregon, current-day Coos County encircles the Coos Bay watershed and estuary which opens to the Pacific Ocean. As the sixth-largest estuary on the west coast (National Estuarine Research Reserve System Science Collaborative, n.d.), this region is ecologically important and has drawn several waves of people over time. An intricate system of inlets and sloughs create a unique landscape that sits between the ocean and mountainous coastal range. It is essential to acknowledge that Coos County is the traditional homelands of the ancestors of the Confederated Tribe of Coos, Lower Umpqua, Siuslaw, and Coquille people (Norman et al., 2007). This is very much relevant to the current-day context of this place, even though this research focuses largely on post-colonial history specifically related to the development of the seafood processing industry. As Euro-American settlers were in the very early stages of opening Salmon (*Oncorhynchus* sp.) canneries in the 1860's and 70's (Adams, 1982), the tribes were being rounded up, removed, imprisoned, and dying in mass numbers due to disease and maltreatment (Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, n.d.). These stories are intertwined, and this point in history marked significant social and environmental shifts in Coos County, driving it towards where it now stands.

Currently, the nearly 1600 square-mile Coos County is comprised of seven cities (Coos County, Oregon, 2019) including Coos Bay, North Bend, Bandon, and Coquille as well as many unincorporated communities such as Charleston. Overall, the total population in Coos County increased from 60,273 people in a 1990 census count to 63,043 in 2010 (Communities Reporter Total Population, 2020). Demographically, Coos County is majority white (86.9% in 2010) and has changed over time with an influx of those who identify as Hispanic or Latino from just over

2% of the population in 1990 to over 5% in 2010. This is congruent with the statewide trend of a growing population of Latinos that reached 12% of the overall population in 2014 (Ruffenach et al., 2016). Less than 8% of the Coos County population is Asian, American Indian or Alaska Native, Black, multi-racial, or not specified as of the 2010 census (Communities Reporter Race & Ethnicity, 2020). Demographic change can shift the identity of a place; a change in the overall demographics of the region will certainly be reflected in the seafood processing industry.

In different waves over time, settler communities in the region were primarily focused on capitalizing on the natural landscape and marine environment. Located between the ports of San Francisco and Portland, the Coos Bay Estuary became a convenient point from which to move commercialized products, such as lumber, once efficient means of transportation were available (Norman et al., 2007). This heavy dependence on extractive industries, however, made community members more vulnerable to consequences of overharvesting and market fluctuations, resulting in boom-and-bust cycles. For example, Coos Bay was "one of the leading forest-products manufacturing centers in the world by the middle of the twentieth century" (p. 5) ... and "seven out of ten jobs in Coos Bay were timber related" (Robbins, 1988, p. 10); then, 1979 marked the beginning of a series of timber mill closures, economically devastating the area. At the same time, the fishing and processing industries had been growing and diversifying, following their own boom-and-bust cycles (Adams, 1982). This led to the establishment of Charleston, located on the mouth of the Coos Bay Estuary, that continues to be the center of the fishing – both commercial and recreational– and processing industries today (Norman, et al., 2007). The current economy is focused on forest products, fishing, agriculture, and a growing tourism and service industry (Coos County, Oregon. (2019). Unemployment rates in Coos



County were 7.7% as compared to 6% in all of Oregon, based on data from 2014 - 2018 (Communities Reporter Unemployment Rate Total Population, 2020). This research was carried out just before the Covid-19 pandemic, the impacts of which will have surely changed the fishing industry and the larger social and economic landscape of the Coos County region.

### Fisheries Policy, Management, and Environmental Change in Oregon

Over time, Oregon's fisheries have changed and been challenged through the implementation of different policies, management strategies, and fluctuations in the marine environment.

Communities with high dependence on natural resources tend to have considerably less economic stability – five to ten times less – than an average community in the US (Freudenburg and Frickel, 1994; Shaw and Conway, 2007). Though there are many, some of the most notable events or changes that have had effects on this region's fisheries and processing plants from the 1970's and onward include the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the West Coast groundfish disaster, strong El Niño events, as well as the currently proposed Department of Environmental Quality (DEQ) mandates.

The MSA of 1976 was a major shift in United States (US) ocean policy. Broadly, this act granted the US fishing sovereignty by the extension of national fishing jurisdiction to 200 nautical miles offshore rather than 12 and established eight regional fishery management councils tasked with developing fisheries management plans adhering to national standards. (NOAA Fisheries, n.d. b).

Perhaps one of the most prominent changes in Oregon following this act was that it gave the US ownership of the offshore Pacific Hake or Whiting (*Merluccius productus*) fishery (Bonacker, 1979). The MSA has evolved over time, with two primary revisions including the Sustainable Fisheries Act of 1996 which aided in preventing overfishing, added three new national standards, and incorporated fish habitat as a critical component for managing fisheries. As a response to declining stocks and mandates of the MSA, catch limits were set for groundfish (a group that includes 88 species) along the West Coast. While this enabled the recovery of some stocks overtime, this had a ripple effect into the social sphere, resulting in large-scale unemployment and the eventual declaration of an economic disaster in 2000. (Shaw and Conway, 2007). In 1983 and 1984, a strong El Niño event characterized ocean conditions on the Pacific Coast leading to an overall decrease in fisheries landings, with particular impacts on pink shrimp larvae survival, salmon harvest, and groundfish landings, as noted by Radtke & Davis (2000). The El Niño event of 1997 and 1998 was stronger (Shaw and Conway, 2007) and had implications stemming from changes in upwelling patterns (Peterson, n.d.).

The second revision to the MSA was the 2007 Reauthorization Act which enhanced the role of science in fisheries management, set catch limits on an annual basis, and moved to address illegal, unregulated, and unreported (IUU) fishing internationally. In an effort to reduce overcapitalization on fisheries, this amendment also promoted catch-shares – also known as quotas, ITQ's, or rationalization – which grant ownership and rights to the catch-share holders in a privatization process (Moon & Conway, 2016). The catch-share initiative had an impact on Oregon's coastal communities. Some describe a positive outcome such as increases in the standard of living (Russell, et al., 2016), while others say that the program has made it more

financially challenging to enter fisheries or gain upward mobility within the industry (Donkersloot & Carothers, 2016).

Currently, seafood processors in Coos County are facing new requirements – a revised general permit – proposed by the Oregon Department of Environmental Quality (DEQ). In order to implement the Clean Water Act and as a response to concerns related to the dumping of seafood waste products such as bones, shells, and chemicals, DEQ has regulated the processing industry since 1982 (Fisher, 2019). This has been achieved by the implementation of the National Pollution Discharge Elimination System (NPDES) permitting program under which the 900-J general permit was created. Many processing plants' permits expired in 2011 and were operating under an administrative extension (DEQ, 2020). The proposed revised general permit was generated due to recommendations provided by an outside consultant hired by DEQ in 2015; this would affect a couple seafood processors in Coos County and would mean a significant financial investment to engage in the authorized collection, treatment, and control of wastewater discharge following outlined requirements (DEQ, 2019). Currently, there are ongoing discussions around the details of the new permit (DEQ, 2020a).

## METHODS

### Research Rationale

The impetus for this look into the seafood processing industry is multi-fold. First, the tension between fisheries conservation successes and the economic struggles of the processing industry was brought to light through conversations with stakeholders. This knowledge necessitated an empirical look into seafood processing plants to identify the specific challenges the industry faces as well as understand its vitality and resilience. Seafood processing plants regularly face change and uncertainty related to management and policy, changing environmental conditions, and shifting global and local seafood markets. Obtaining a concrete understanding of these challenges can help guide the industry into creating response strategies when facing uncertainty in the future.

In contrast to Oregon's fishing industry, which has frequently been a subject for research, the seafood processing industry aspect has remained largely understudied. It is not uncommon, both historically and today, for the workers who process seafood to be invisible while those who fish are glorified (Salinas Ferreira, 2015). This study fills a substantial data gap by capturing a snapshot into the industry during the time the research was undertaken. From an outside view, the seafood processing industry has remained a fairly mysterious aspect of the fishing industry in this area. Understanding the seafood processing, an industry that plays such a significant role in the region both historically and currently, is key to understanding this part of the Oregon Coast in its social, economic, and ecological dimensions. Gaining a multitude of perspectives from those that are within the industry as well as those who hold an external view will allow for a multi-dimensional inquiry and will provide key information for managers. Choosing to interview both managers and workers provides an essential mix of perspectives. Specifically, gaining insight into the senses of place of both workers and employers can show how their roles at work

(including the tasks it requires as well as the differing power positionalities) plays into differing experiences in the same locale. This thesis, which examines the seafood processing industry through the lens of sense of place, is housed within the larger research project described. To date, there has not been any academic research into the sense of place mediated through work in the seafood processing industry.

Understanding the social dimensions related to fisheries, including seafood processing, is not only necessary for the reasons stated above but is also federally mandated by the 1996 revision of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as well as the National Environmental Policy Act (NEPA) of 1970 (Pacific Fishery Management Council, n.d.). Within the study site are Charleston, Coos Bay, and North Bend, all of which are considered fishing communities, as defined by National Standard 8 in the MSA (16 U.S.C. § 1851(a)(8)). A fishing community, by these terms, is one that is “substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community” (16 U.S.C. 1802 § 3(17)). NEPA requires an assessment of both economic and other social factors such as community identity to be included in any environmental impact assessments or statements (42 U.S.C. §§ 4321). Both of these mandates are congruent with an increasing emphasis on integrated social-ecological systems, that incorporate data from both social and natural dimensions.

The overarching question that led this research was: *how does work in the seafood processing industry mediate a sense of place for workers and employers in Coos County, Oregon?* It was

determined that a humanistic geography perspective for the sense of place inquiry was most appropriate, as sense of place methodology in geography tends to be qualitative, phenomenological, and use semi-structured interviews as a primary method.

### Participant Identification

Research in the form of semi-structured interviews took place during the summer and fall of 2019 as well as in the winter of 2020. Worker participants were primarily accessed by way of a snowball sampling technique (Auerbach & Silverstein, 2003; Berg, 2001; Bernard, 2011) as well as by relying on a gatekeeper to help initiate contact. Interviews with both workers and managers were done in person. Community service providers were called or emailed directly after identifying community organizations or agencies that the researchers believed could provide insight into the social sphere of Coos County. Three interview guides were developed, each targeted to the three specific groups of participants: workers, employers, and community service providers. Some of these interviews were done in person and others were done via telephone call. Demographic information including gender, age, race/ethnicity, and level of education was collected for each participant. Each interview was conducted in the participants preferred language and location; all were recorded and lasted anywhere from 45 minutes to 1:30 minutes. Interviews were conducted until thematic saturation (Auerbach & Silverstein, 2003) was reached within all three groups of people.

The total number of interviews conducted was 26, which included six employers, six white workers, nine Latinx workers, four community service providers, and one additional interview

with an entity who has insight into the seafood processing industry and history in Coos County. Due to timing restraints for the Spanish-language transcriptions, this thesis only focuses on the six white workers, six employers, and four community service providers. The white workers interviewed consisted of three females and three males, ranging from ages 19 – 55. Their levels of education were generally high school or GED, though one had not completed high school and two had some college experience, one having completed a degree. Each worker had a different job in the processing plant at which they worked; these positions ranged from fileter to quality control to retail to general processor. Length of time in the industry ranged from a few months, to several years, and in two cases, 15 – 32 years. In terms of the employers, one was Korean while the others were predominantly white. Four of them were males while the remaining two were female. Most held the job title of "manager", while one was the owner of the processor. One of them had been in their position for three years, while the others ranged from 9-43 years. Community service providers each specialized in different social issues or community dimensions, including housing and anti-poverty work, health and mental health, as well as local politics. Additional demographic information on these providers was not collected, as it was not relevant to this research. In order to understand multiple perspectives, six processing plants were included in this study which ranged from small single-species operations with few employees to larger plants that process a multitude of species and have up to 75-200 employees. Prior to any on-the-ground research taking place, all relevant materials were approved by the Institutional Review Board (IRB) in order to remain ethical and in order to minimize potential risks to both research participants and to the university. All participants were given pseudonyms and referred to only by these in the results and discussion sections.

### *The Lens of Sense of Place*

The lens of 'sense of place' was applied as a means to examine the intended lines of inquiry and approach this thesis which explores how the seafood processing industry mediates a sense of place for workers and employers. A series of questions specific to sense of place was included in all three interview guides. The development of these was guided by the intent to understand how participants defined the geographic boundaries of the region they currently inhabit, how they experienced their relationship to that place, how that compared to other places, and how this played into their sense of belonging. These specific questions fortified a more general understanding of how each participant experienced and interpreted their sense of place in their broader lives, while many of the questions in other parts of the interview process illuminated how sense of place was mediated through work in the seafood processing industry.

Humanistic geographers have empirically examined sense of place since the 1970's. Buttner (1976), Relph (1976), and Tuan (1977) can be acknowledged as having set the foundation of 'sense of place' inquiry from a humanistic geography perspective. Since that time, sense of place has been extensively defined and redefined, and approached methodologically through a handful of disciplines, including environmental psychology, geography, and social anthropology (Wartman & Purves, 2018). Sense of place has become one way for social scientists to understand the vast array of human relationships with the environment. It has become an increasingly common approach in communities that are embedded in a natural environment or



involved with natural resource extraction, such as in the cases of fishing and farming. It appears to be entirely empirically unexamined in the seafood processing sector of marine fisheries.

As defined by Wit (2013), sense of place is “the human experience of place in all its dimensions: physical, social, psychological, intellectual, and emotional. It includes the beliefs, perceptions, and attitudes held toward a place, as well as residents’ conscious and unconscious attachments to place, their feelings about local political and social issues, and their attitudes and feelings toward other places”. This lens is a way to understand the emotional experience, significance, and meaning of place to an individual or to a group of people. Sense of place does not solely reflect the natural environment, but human systems and communities as well, sometimes referred to as the “cultural landscape”. There are many aspects of human communities that are revealed by a sense of place inquiry. Sentiments held by and experiences of certain people or groups of people in how they relate to a place, think about a place, or feel welcome in a place can reveal certain social structures and practices, power distribution, control (Stokowski, 2002) and dominant narratives, as well as the relationships between individuals or groups. Personal or collective values may also be revealed which can be particularly useful in natural resource management and policy-making when the needs and values of various stakeholders must be considered. In short, it can lead to more inclusive decision-making (Quinn et al., 2019; Masterson et al., 2019).

Sense of place research explains how people experience their environment and also how they shape and respond to it. In other words, sense of place is both a “driver and an outcome of socio-ecological processes” (Masterson et al., 2017). Cresswell (1992) describes this idea by stating that those who hold a dominant sense of place play a more significant role in shaping human-

ecological systems (Masterson et al., 2019). In addition, Devine-Wright (2011) describes how place attachment, or how one bonds with a particular locale, “predicts attitudes towards specific proposed environmental change”.

In this research in particular, the sense of place lens will allow for a look into the seafood processing industry and how it connects to the broader area of Coos County and beyond. Workplace geographies in general have been few and far between in academic research, as described by McMorran (2012) who states that, "work has been largely absent from the geography agenda" but cites a handful of geographers that explore work and labor within the context of place such as Castree, et al. (2004). Some of these works explore the spatial conditions and sense of place at the worksite itself while others examine labor and social structures (Massey, 1984), or labor markets (Peck, 1996). This research seeks to understand sense of place mediated through work, both at the immediate worksite and beyond. As far as the author is aware, this has not been the intent behind any sense of place through work research, and therefore serves to fill a gap within the humanistic geography field.

### Mental Mapping to Visualize Place

All seafood processing workers were asked to perform a mapping exercise. At the end of each interview, using an adapted mental mapping methodology (Soini, 2001), participants were asked to reflect on the place they currently inhabit. On a blank piece of paper, they were asked to draw the place they "live, work, and play"; this prompt was intentionally broad, as to encourage them

to scale the map in the way that felt right to them. There were no restrictions on what they could or could not include on their map, or how large the geographic boundaries could be. When finished with the initial map-drawing, participants were asked to identify and label the five most important places on their map. If additional probing questions were necessary, participants were asked to explain their personal relationships with these places and why they were of specific importance. This process took place while continuing to record the conversation which resulted in a rich, more free-flowing addition to the structured sense of place questions in the first part of the interview. This mapping exercise helped to clarify how participants spend their days, what they value, and what their spatial experience looks like.

A mental mapping methodology was applied in this research to elaborate on the participants' senses of place. Mental mapping is used most commonly in the disciplines of humanistic geography and cognitive psychology (Soini, 2001), often as a process that typically involves images drawn on paper (Soini, 2001; Hayes, 1993) that are emblematic of a person's mind (Mark, et al. 1999). As defined by The Dictionary of Human Geography, mental maps are "spatially organized preferences, or distorted egocentric images, of place, mentally sorted by individuals and drawn upon as resources in their interpretations of spatial desirability, their organization of spatial routines, and their decision-making transactions as satisfying agents .... an amalgam of information and interpretation reflecting not only what an agent knows about places but also how he or she feels about them" (Johnston et al., 1986, p. 432). A mental map can be thought of as an abstraction of reality (Tuan, 1975) used as a method of externally representing the human-environment relationship. Maps can reveal scale, symbols, human cognition, relationships, and social networks (Powell, 2010). Additionally, they are thought of as

direct reflections of the culture to which the map-maker is connected (Soini, 2001). They are a useful tool in understanding a person's attachment to or sense of place (Soini, 2001) and provide a non-verbal space to communicate which caters to varying intelligence styles and heightened inclusivity in the data collection process (Gardner, 1993; Gieseeking, 2013). Discussing and interpreting the map is another revelatory process in which more understandings of a place are made. In this sense, mental map-making and deciphering is a complex discovery process for both the interviewer and participant that helps make greater sense of a relationship to a given place. Mental mapping methods are used as practical additions to qualitative interviews, focus groups, and ethnographic research, leading to more comprehensive data (Gieseeking, 2013).

In the case of this research, asking the participants to engage in mental mapping provides a visual representation of their sense of place, both in regard to work in seafood processing and outside of work. This process both clearly shows the geographic scale at which they commonly inhabit use and which places are most important to them. It can show which aspects of their community and biophysical environment they engage with on a regular basis, supplementing what they verbally describe about their sense of place.

## Data Analysis

All interviews were transcribed, then files were uploaded into NVivo12 software. Grounded theory data analysis techniques were used including open coding, axial coding, and selective coding (Creswell & Poth, 2018; Strauss & Corbin, 1990). Each category of interview – employers, workers, and community service providers – was coded separately. Each transcript

was read multiple times to obtain the general gestalt of the person and their story; notes were taken in this process to refer to at a later time. An open coding technique was applied initially in order to categorize phenomena that emerge from the interview text line by line, resulting in a lengthy list of codes. Next, the process of axial coding took place in which the initial list of codes were reorganized based on their relatedness, in order to arrange and integrate the codes into a cohesive list of codes and subcodes. This step in the process identified categories and themes that connected back to the initial research questions. Finally, selective coding was employed by rereading the transcripts and coding specifically with pre-identified themes in mind. This three-part approach resulted in thorough and organized list of codes in all three categories of interview that could then be further analyzed.

Mental maps were analyzed with the intent of understanding a) the scale and geographic boundaries of the participant's sense of place; and b) the most significant places within the drawn area and what they represent to the participant. Map data was used as a supplement to the interview data and were analyzed using an adapted framework of Lynch (1960) by taking into account the edges (geographic boundaries) and landmarks used. The places on each map were translated into a written list and coded to see what themes emerged from this set of data. This was combined with the data gathered in the verbal interview process in order to depict a more comprehensive sense of place, derived from both responses to interview questions and the mental mapping exercise.

## RESULTS AND DISCUSSION

### Connection through Hard Work: Seafood Processing Workers' Sense of Place

Through their work in the industry, the six white seafood processing workers' sense of place, while different for each individual, can be described by three primary conceptual categories. These include 1) connection to the biophysical environment, 2) connection to human communities, and 3) a sense of belonging. Generally, for several of the participants, a connection to the biophysical environment was expressed in either a sentiment that their work was in physical proximity to the ocean and its seasonality, or that they felt closer to the ocean because they get to handle marine species at work. Jessica, a woman who works for a large processor who has been in the industry for about 15 years, said:

*"It keeps me near the water, so that's where I go... that's what I love about it."*

Another participant, Samuel, a man in his 20's or 30's, expressed a similar sentiment while comparing another job to his work in oyster cultivation and processing. This work is structured differently than processing other species, as it is primarily outside and work duties are generally more diverse:

*"I didn't know I liked [seafood processing] so much, but when I was 18 working there at [the processor] for 2 years... I didn't like it because it was long hours and back-breaking work. And then I went to work at [a large store] unloading trucks and being inside... no windows, the same thing every day. I couldn't believe how much I would've appreciated that [processing] job. What I appreciate about it is that in the mornings you're out on the boat, on the mudflats and the next minute you're inside processing oysters and then potentially you could go out on*

*the barge after that. So, you get a wide variety of different job tasks... inside, outside. One thing I don't like, you know, there's different years or time of the year, like wintertime, it's nice to be inside the shops. It's usually pouring down rain."*

It is important to note, as shown in quotes such as the one above, that positive work sentiments often came along with the downfalls of work in seafood processing more generally. Some of these challenges posed through work include difficult physical demands (such as standing for long periods of time) and uncomfortable working conditions (such as cold temperatures). Other workers cite heavy performance and production pressure as well as challenging social dynamics at work. In some circumstances, work hours are inconsistent or are only available seasonally, creating some unknowns and, at times, financial instability for employees.

Workers' connection to the ocean sometimes led to a greater knowledge about the marine environment, through larger observed patterns or by getting a closeup view of marine species and understanding from which area of the ocean they were fished. Several workers stated that these interactions gave them a sense of change, either seasonal shifts or other change in the marine environment, in part due to observations about which species in varying abundances were coming through the doors of the processing plant. For example, Jessica fondly recounts her experience with Pacific Whiting:

*"I remember I was up there sorting... and I learned the fish. I literally personally have touched hundreds of millions of pounds of whiting and did that for six years."*

And Gabe, a young male worker, who, after only working in the industry for a short time, proudly described his knowledge of the product's origin as well as how that connects to sustainability and product traceability:

*"That's one of our specialties... if you came and picked out a particular can of tuna and were wanting to know exactly where this fish and this can of tuna came from, we could look at our numbers from when that lot of cans came out and we could match it to the box that we cut the fish out of. All of our boxes of fish have the tag of the boat of where it came from. So, no matter what, all of the stuff that is in our products can be directly traced back to where it came from. Sustainability is what I'm trying to get at there."*

Similarly, Samuel described how their work in oyster cultivation helps them feel like they are positively contributing to the environment:

*"I'm thankful for them [oysters] because it's a type of work that I really enjoy. I know they're great for the environment, so it feels good doing something that actually benefits the environment as well because they're filter feeders."*

Secondly, the seafood processing workers also expressed their connection to human communities, both locally and afar, created through their positions in the industry. Several workers described that they thought about the people that the products were going to feed, and often expressed a feeling of importance in their job and a sense of pride in having a hand in that process. For example, Gabe expressed:

*"I feel completed and fulfilled in my job when we do a large number [of tuna pouches] like that. Because then when I get off work, I'm thinking about how*



*many people are each going to buy one of those things... It makes you feel like if you were to quit your job for even a day... there's a bunch of people who would literally go without... It's an important job. It really is."*

In addition, some workers discussed how the seafood processing industry provides jobs locally, both through jobs offered at the processing plants themselves, or through connections to other jobs such as resource managers who help monitor product, local restaurants that sell product, or local farms that supply produce to processors who make value-added products. They sense that the presence of the industry contributes to the local economy in these ways. For example, Jessica stated:

*"I believe that it's a lot of revenue... the amount of taxes that we pay on fish and the port biologists and the researchers and the observers, if we weren't there, what would all these observers—you know what I mean? We're all connected. We really are, so I would say a lot of revenue for the state specifically."*

Lastly, the seafood processing workers also widely expressed a sense of belonging that was created through their participation in the industry. Some workers felt that they "fit in" the larger community of Coos County, and others felt that they did not. Regardless, many expressed that their work community enabled a sense of belonging that often linked to a particular aspect of their individual identity. It was clear that some processing plants cultivated a sense of family, either through the feeling of close bonds and care for one another or through the hiring of actual family members. Other plants did not have this quality, but workers were able to find their niche and sense of belonging with a subset of the crew within the plant. For example, Jessica described:

*"The age of our workforce is older. I'm 52... We all need to help each other. Times are tough. We're all in the same boat... We have the greatest people. I just want to make sure everyone's okay. It's like a family."*

And Gabe stated:

*"The crew of people that you have in here, it's a motley crew for sure. A mix of your misfits and whatnot... it's a good place for that. Because you've got a bunch of people that, without it, they wouldn't really be doing much. And with it, they have similar people that they can fit in with without it being that big of a deal. And they can have a place where they belong. And also work."*

One worker, Jessica, tied her sense of worth and sense of culture to their work with Pacific

Whiting and how they felt that those were threatened during the rationalization of the fishery:

*"My boss said, look, you've got to fly to San Diego. I'm like, I can't. I can't leave. What do you mean, San Diego? I'm working on the line sorting, and he goes, well, they're going to rationalize the fishery, and the fishermen are going to get 20% of this quota, and they may or may not deliver, and I said, you mean we wouldn't have Whiting? This is going to make me cry. When we didn't have Whiting, we felt we weren't worthy. People were like, why aren't we working? It's that much a part of our culture."*

Because some workers felt such a sense of worth and cultural connection through their work in the industry, they felt a degree of loss when their work changed or was lost. It is clear that, to some, work in the industry is not simply a job that provides income but plays a deeper role in their wellbeing and larger sense of connection.

In the mapping exercise, seafood processing workers drew and described fairly small-scale lives. Most of them included their home, workplace, and a few relevant in between such as the grocery store or the beach, illuminating how workers use their time and which spaces they frequented. These spaces that they considered important or relevant demonstrate both what is required of them (for example, their home and a place of work) as well as what they value outside of home and work. The size and scale of their maps were relatively small and most did not exceed the geographic limits of Coos County, except to indicate where family was located outside of the area. In Figure 1, the participant depicted work and home with several stores at which they shop (Ross, Safeway, and Walmart) between them. Far in the distance, they indicate where their daughter and granddaughter live, who they visit on occasion. Figure 2 shows a similar map in which the participant drew home and work – the most detailed aspects of the map – as well as a few other places nearby, including a market and convenience store, a park bench they frequent, as well as some landmarks. The map in Figure 3, similarly, shows work and home as bookends, while hiking, crabbing, and a casino are other places of importance to this participant (the Chinese food restaurant was drawn and described as a landmark, rather than a place of personal importance).

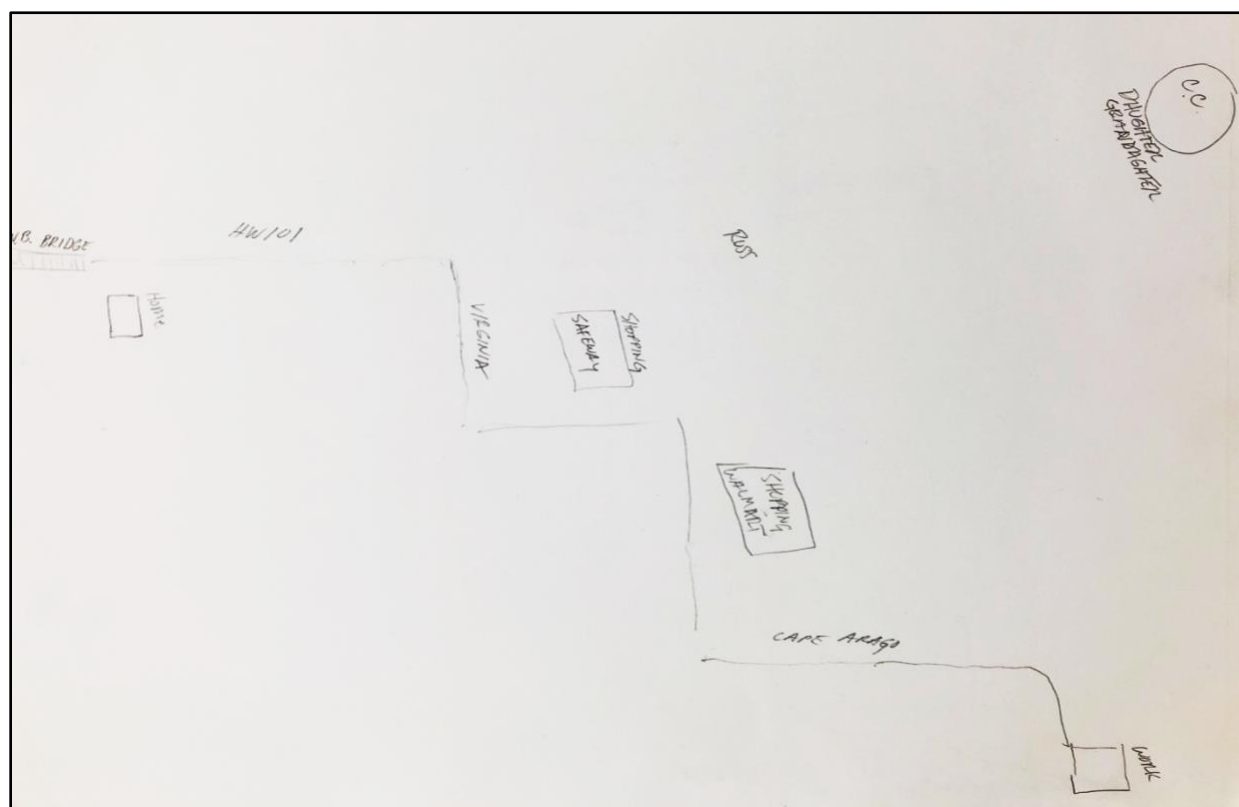


Figure 1. Tyler's Map: Map drawn by Tyler, a middle-aged male seafood processing worker (edited to remove the name of processor).



Figure 2. Gabe's Map: Map drawn by Gabe, a young white male seafood processing worker (edited to remove the name of processor).

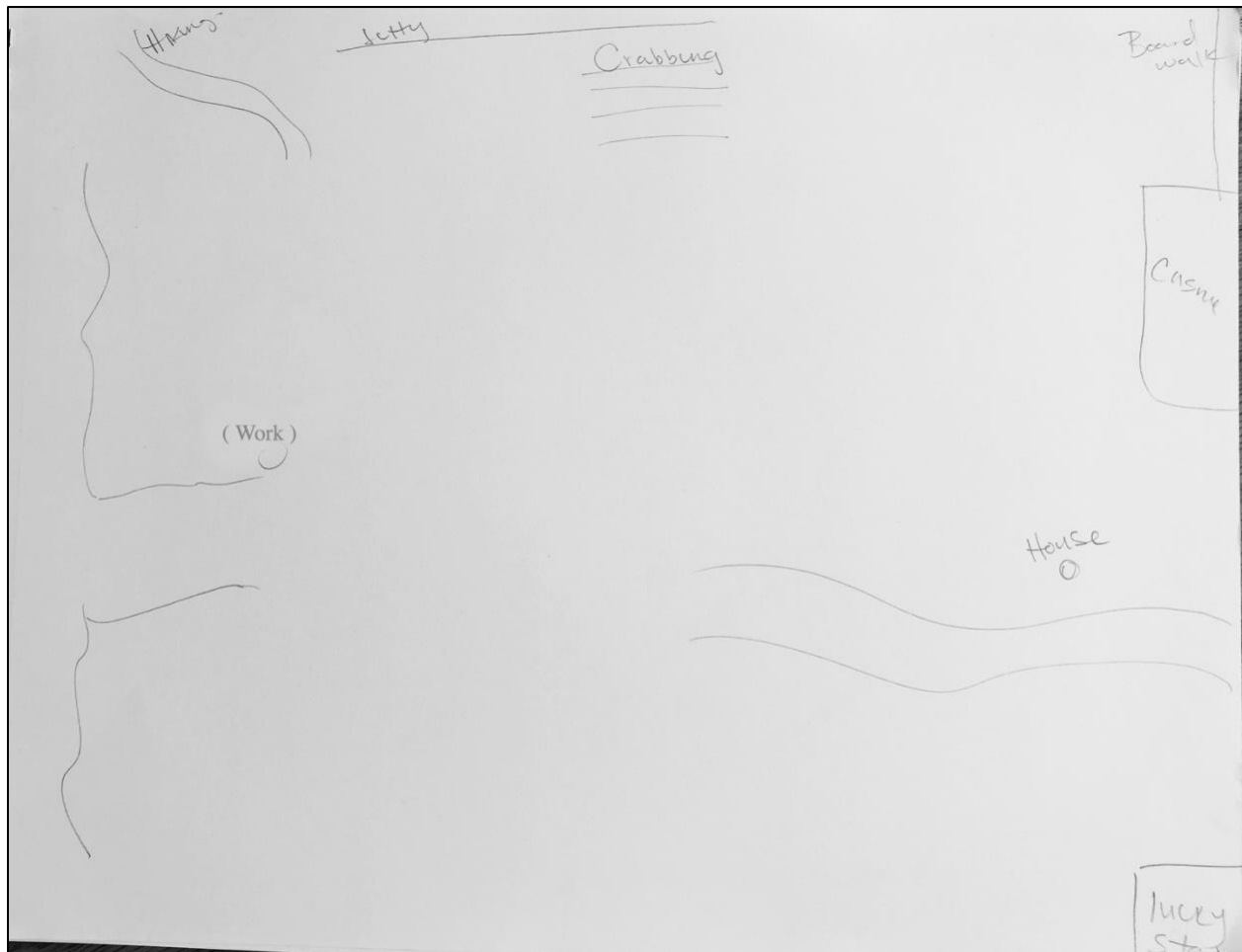


Figure 3. Maddie's Map: Map drawn by Maddie, a white woman with five years of experience as a worker in the seafood processing industry (edited to remove the name of processor).

### Unpacking Workers' Connection to Environment and Community

Connection, both to the biophysical environment and to the surrounding human community, was a substantial theme that emerged from the sense of place interview data, particularly in seafood processing workers. Specific work tasks and setting appear to serve as the catalysts for these

connections. For example, a processing worker who filets fish has a sense of connection to that species; a person that works in an oyster facility located on the shore feels a connection to the ocean; or, a worker feels proud thinking about the connection to the consumers of the product that they are helping to produce. Raymond et al. (2010) developed a model to describe place attachment that highlights both community attachment and belonging as well as connectedness to the biophysical environment. Belonging is a fundamental part of this, as Sampson and Goodrich (2009) describe, "...belonging can thus be created, constructed, shaped, and maintained through engaging in practices and behaviors that connect individuals to particular landscapes". Raymond et al. apply Sampson and Goodrich's theory to their research with Cornish fishing communities. The same idea is applicable to seafood processors. Though many of the workers are confined to indoor facilities, some are still able to cultivate a connection to the external biophysical environment and human communities, which contributes to a sense of place and belonging. Seafood processing employers also expressed connection to the biophysical environment and human communities through their work.

### A Wide Perspective: How Seafood Processing Employers Describe Sense of Place

Employers in the seafood processing industry experienced and described their sense of place most often through the lens of change over time and over a large geographic range. The theme of 'change' both naturally emerged through the interviews with frequency and was additionally inquired about through predetermined interview questions and associated probing questions. It is clear that employers, managers, and owners of seafood processing plants hold a long view of

time through their work. Therefore, they describe changes noticed over many years and often describe that they and their businesses are substantially affected by these changes and have had to find ways to adapt. It is important to note here that this is *substantially* different than the described experiences of the workers, who experience changes on a remarkably smaller and unpredictable timescale such as by season or work shift. In the case of the employers, as has been typical throughout time in the seafood processing industry, most of these changes have to do with domestic and international seafood markets, environmental conditions, policy and management, technology, as well as the workforce. These factors are interlinked and cannot be separated, as they have a cause-and-effect relationship with one another.

When considering international seafood markets, then, the employers' sense of place is described at a considerably large scale, as they are often referring to and paying close attention to other countries that import their products. Successfully selling seafood to importing countries necessitates an understanding that goes far beyond the local place of the product's origin, particularly when dealing with the nuances of an ever-shifting market. For example, Jack, a male employer at a large processor who has been in the industry for over 40 years, stated:

*"I've seen a black cod market take it up three times. Our company lost... how many hundreds or thousands or millions... We were a giant company at one time, so we had a lot of black cod and a lot of channel [rockfish] in the freezer. And at the time it really was a lot of money. I think it was early eighties. But the Japanese, at the time, figured the price of fish was too high and they just started finding the Chilean sea bass... [the fishery was] starting up, so they were cheaper. So, they took over the black cod market. The Japanese said they were only going to pay so much for fish, and we said, well, can't do that. We've got this much money into it. Well, the next week, well we're going to pay this much. A nickel less. I can't do that. I just went on and on and on to where it got to the point where they had to take the fish. I didn't fortunately that time, but they had to take*



*fish out of the freezers, trim them, reglaze them, put them back in, and eventually sell them for less money than they were offered for the first time after they did all that work."*

Changes in the workforce over time – both in size and demographically – were mentioned by employers, though the reason for these shifts, particularly the coming and going of migrant communities, were not typically stated. Changes in fisheries policy and/or abundance in marine species also had an effect on the workforce size. Jack also described:

*"[We] started getting more heavily into fish in the 80's... Dover, Rock Cod, Petrale, Lingcod... built up the filet line to where we had two shifts. [We had] started out with a few fileters, mostly the wives of the guys that fished and then gradually hired people. [There were] waves of each country... whether it was Korea, Vietnam, we all had different waves of people come over to the United States to go to work in the fisheries. And then they would leave here. We'd process two full shifts of fish every day. I mean every day was just busy, busy, busy... Then it started to tone down... after these closures and quotas [there was] less and less [fish] and in the 90's we kept going... but we didn't get any more rock cod or anything. So, our crews were cut down to one. The amount of fish we did changed... and we didn't get a lot of species, so it made it harder for us to compete with the other companies that still got fish in other areas. It started getting less and less and less. And then it got to the point like now – granted they opened [the groundfish fishery] up again – but I have four or five filleters. I mean we don't... we don't have crews anymore."*

He also goes into how employers' sense of place can be closely linked with the species that they have processed over time, and how the abundance of those species has shifted due to a number of factors:

*"We used to do a lot of salmon... a million pounds here, easily. We had silvers back then... we had a lot of dories that would come down here. We were open until like two in the morning. Boats would still be flying in, you know, full boatloads of fish. But quotas started dropping, fish was harder to catch different*

*times. And then you had the farm fish that started coming in and taking over as soon as our market got a little weaker. And then we get wild fish again in another good year. In the last few years there has been hardly any salmon. This year, there's still not very many, but it doesn't take much to stop salmon sales because there's nothing built up to take all that salmon."*

With changes in availability and abundance, processors describe having to adapt in order to continue to stay in business. This might include reductions in employees, changes in the species they process, or finding creative ways to gain more profit from their products. Thomas, a male manager with 40 years of experience at the plant, provided an example of how his plant adapted, despite such significant reductions in salmon abundance over the years:

*"[Annually, we process] over 2 million pounds [which, overtime, has] probably quadrupled. We switched. As salmon went down, some of these commercial boats, they kind of went more into tuna. Well, then they tried to value-add, just make more out of it, so we've facilitated that. We made it possible."*

Similar to workers, employers also described a sense of connection to and a deepening of knowledge about the marine environment through their work. One manager, Alex, who has about 20 years of experience with a large processor, describes this and connects it to a sense of pride and responsibility to their customers and the environment:

*"Initially, when I first started doing this, it was amazing that there was a shrimp fishery. We were doing 10 million pounds a year when I first started working here, and I didn't have any clue that there was even a resource off our coast that you could harvest that much of anything -- and sustainably at that. There's a lot of work that goes into it. It's amazing how much work goes into everything from the guys harvesting all the way to the plate and how it's kind of a team effort to put up the best product you possibly can. I feel like I have a huge responsibility as*

*a ready-to-eat plant to make sure that whatever's produced here I would feed to my family, so that's the way I see it."*

All employers expressed a sense of belonging in the general area of Coos County and one, Jack, stated that his work in the seafood processing industry contributed to this sense, in terms of the process of providing employment:

*"The only thing I could tell you is that over the years, I've seen this whole... as far as I'm concerned, the fishing industry, for the last 40-something years... I've seen it go through a lot of changes. I've hired thousands of people, helped out some, you know, some you can't help, but I always feel good when I can hire someone and give them a job."*

Lastly, some of what employers express in terms of their sense of place and how it connects to their work in processing, is related to environmental factors and stochastic events. This relationship is inherent when working with natural resources and is oftentimes complicated due to anthropogenic factors and influences. For example, Brooke, a female manager at a small oyster facility, describes the challenges they face when dealing with heavy rainfall that prompts sewage overflow:

*"If the upper bay gets 2.5 inches [of rain] in three days, then we're closed for 10 tidal exchanges that we can't pull water, so we can't do anything. We're finished... This has been very difficult this last year because we've been closed twice for raw sewage spills. This really hurts you because you can't do anything. The more permanent [employees] that have been here for a long time, they will do other things; the others will have to get unemployment. [Business-wise], it really hurts for the simple reason – what happens is your customers find oysters from some other place. And if we can't do it, they're going to go to Washington, they're going to go to Mexico... they're going to go all over. So, then it takes you a good month to get the customers back again."*

## Understanding Employers' Impressions of Change

A theme that became evident from the seafood processing employers' interviews, was that their sense of place was often in reference to change over time. Many of the participants' responses described how shifts in species abundance, environmental conditions, policy and regulations, and worker availability have affected them and their business over the years, often describing an interplay between several of these factors. Because many of these participants have a long personal history in the industry and because their jobs require them to have a wider view in order to succeed and adapt, it isn't surprising that their senses of place are heavily informed by flux.

There have been multiple studies on change and sense of place, particularly around how a changing environment shifts individual perception of place, such as in Davenport & Anderson's (2005) work with community members in central Nebraska and the Niobrara River development. However, not much has been academically theorized about how one's sense of place through a prolonged period of time, enables them to understand change and uncertainty, and adapt to the future. Stedman (1999) explains that sense of place can be used by an individual or community as an argument against change, particularly when there is a high degree of attachment or identification to a place as it is; he uses the example, "this is a timber town... logging is a way of life". However, it is important to recognize a counter-occurrence to change aversion, such as in the case of seafood processing employers. What the data show is that a strong sense of place over a lengthier period of time can result in situating change as regular and expected. The knowledge that employers have, rooted in their senses of place gives them a vantage point from which to

take action and manage a processing plant in an adaptive manner. According to Berkes et al. (2003), knowledge – particularly multiple sources of knowledge such as both scientific and local knowledge of resource users – can be linked to heightened resilience, defined as "the capacity of a system to absorb changes without shifting into an alternate state" (Gunderson & Holling, 2002; Blythe, 2014), within a system in the face of change. It is speculated that this knowledge may go beyond the resilience and adaptive capacity of the seafood processing industry and may be useful for other socio-ecological systems within the region.

### Seafood Processing Workers and Employers: A Difference of Time and Space

Based on the interview and map data, it is clear that seafood processing workers and employers experience and communicate different senses of place on a temporal and spatial scale. Because both groups spend time in the same physical location of one of the same five processing facilities, the differences in scale for their senses of place are likely generated by the tasks required by their specific jobs, contributing to a particular awareness of place that have different spatial and temporal scales. Temporally, employers have and describe a longer sense of time, particularly in reference to the seafood industry and how it has changed over the years of their involvement, which may help them be adaptive to future changes. Spatially speaking, in comparison to workers, employers have a significantly more globalized experience and perception of place that corresponds with their role in the workplace. Their jobs require them to have a wide perspective; certainly as wide as the flux of ocean conditions and species abundance, and sometimes as wide as international seafood markets. This is congruent with the conditions of increasingly globalized societies and markets. The stretching of place implied by globalization is

discussed by Castree, et al. (2004) in that places "are not only interconnected, but interdependent" in which "events, processes, and institutions [are] stretched out over a larger space".

Seafood processing workers, in contrast, have a smaller-scale focus on the species they personally process as well as the community in which the finished product is distributed. This is shown in their responses to sense of place questions as well as their map drawings. Castree et al. (2004) describes labor as having a "place-based existence" and that wage workers are "necessarily local", meaning that they, despite existing and working in the context of a globalized system and interconnected world, tend to have a smaller scale at which they operate. The authors theorize seven primary reasons for this hyper-locality of wage workers; several of which are relevant to the case of seafood processing workers. One of these reasons is that wage-workers frequently lack time and resources to travel far beyond the place in which they work and live. Additionally, many wage-workers are involved in production activities (such as seafood processing), which is almost always local work as it requires a "physical anchor". This locality can foster the development of place attachment and identity, much of which is formed out of the direct day-to-day experiences of workers. Therefore, it makes sense that seafood processing workers develop a connection to the local community and the marine environment through the tasks their work requires. This can be contrasted to the comparatively spatially wide sense of place expressed by the seafood processing employers, as their day-to-day tasks often mandate a global perspective with an eye on multiple complex ever-changing processes such as international and local markets, fisheries policy, and environmental shifts.

To take this idea further, Massey, in *A Global Sense of Place* (1991), describes that capital and capitalism contribute to the different experiences of place by individuals, but that there are other factors such as race and gender that create spatial social differentiation. In an idea that she refers to as "power geometry", Massey explains that the identities of an individual or social group directly determines their relationship to the interconnections of place as well as their mobility. Those that have more expansive movement are often in positions of power that places them in a role of controlling time-space compression (mobility) for others. This pattern, she acknowledges, is not always how social positionality influences movement, such as in the case of migrant workers who have far less social power but move great distances. This differentiation in use of place and mobility based on social positioning can be seen in the different spatial experiences between workers and employers in the seafood processing industry. Another way to examine this difference is through Pierre Bourdieu's concept of *habitus* – a way of being, or disposition— and a given *field*, which is articulated in an article by Allison Hurst (2013) as a way to theorize "the relationship between agency and structure". This is applicable in that the habitus is the interplay between social structures (such as class, in the case of workers and employers) and the workers and employers themselves. It is a way to potentially explain the differentiation in sense of place between the two groups of participants, despite spending their work time at the same locale. Understanding the senses of place of individuals in both groups provides a more comprehensive view of the seafood processing industry and how it interlinks with place, both locally and globally, presently, and in the past.

### The Community View: Sense of Place

During the interviews, community service providers described several facets of Coos County based on their knowledge and experience working with folks who live in the area. This was less about their personal sense of place, but rather focused on their perspectives about how different demographic groups use space, how the region is linked or isolated to other areas, and generally what brings people to and from Coos County. Reminiscent of historical descriptions of the area, several community service providers brought up the sense of isolation between Coos County and other areas, as well as the difficulty in retaining or bringing in young professionals and the social issues that occur in the region. For example, one provider, Irene, who works in healthcare, described:

*"We are at the edge of the known world, essentially. We are a small coastal community... say you are a professional, you are a mental health professional and you are looking at, oh, wow, the Oregon coast is so beautiful, I want to move there. Well, when you Google Coos Bay, what you get is a lot of information about the high rates of crime, the lack of housing, the drug issues, the constant rain, so you're barraged by this information. Why would I move my family out there when my car's going to be stolen? I think that any rural community is going to experience that. It's hard to draw young professional people here. Currently, we have openings for a whole slew of physicians and mental health therapists, and it's very difficult to be able to draw them over to this small rural coastal community of Oregon."*

The issue of homelessness, existing primarily due to the lack of housing availability and absence of affordable housing in the Coos County region came up with every community service provider, as described by Irene:

*"[Homelessness] has grown more prevalent in the last year... I have never seen it as bad as it is right now. In 2018, there was a count of 940 individuals. In 2019,*



*there was a count of 1,299, so that's about a 300-person count jump. I think that's pretty substantial."*

And Marcy, a female provider that works with an anti-poverty organization added:

*"A lot of the homeless folks are residents here, so I'm not talking necessarily about that population, but the transient population, a lot of them are coming to this area because of the coast and the natural beauty. About 20% of folks said that the natural beauty-- and these are homeless folks-- was why they moved to this area. It's just really fascinating to me to think that folks are intentionally coming here for that, even if they don't have any resources here."*

Nora, a woman involved in local politics, described the connection between those experiencing houselessness and the fishing and seafood processing industries:

*"When we started looking into it, many of those people, while technically homeless, were employed and in the fishing industry. They were camping... because it was close to work, because rents are expensive, and when you're engaged in seasonal employment, it's hard to make it make sense to pay high rents and high deposits, and then, of course, the housing market is just tight, and anybody who was having trouble with transportation or anything, this was within walking distance of the docks."*

This brings up the issue of transportation, which was another common theme brought up by service providers and other participants alike. A lack of transportation for those who might not have vehicles appears to be a prominent problem, particularly for access to work. It is critical to address these community-wide challenges in order to maintain the vitality of the seafood processing industry. Irene stated:

*"Transportation is a huge issue, just like everywhere else in rural Oregon, and the fish processing areas are remote from town – they're out in Charleston – which if*

*you're living in Coos Bay, that's a seven- or eight-mile drive. We do have rural transit, but it does not run at the hours that they need to get out there to get to work, so it's a struggle."*

Additionally, community service providers were asked about their perspectives on how the role that the seafood processing industry plays in the Coos County region. Interestingly, these participants reflected a confidence that the fishing and seafood processing industries play a major role in the area yet admitted they didn't know much about the details and innerworkings of these industries. It was described by three separate participants that the industry is a part of the identity of the region, and contributes substantially to the economy and community. Marcy said:

*"I would say [the seafood industry] is part of the identity."*

Nora stated:

*"[The processing industry's contribution to the economy] is substantial, and it's a big deal when the crabbing season is delayed and the crab boats are not able to go out and people aren't able to work. They tend to be employing people that are entering the workforce or reentering the workforce, and it makes a big difference. A lot of times, they're able to get [people experiencing houselessness] employed there at the fishery processing facilities, and it helps them to be able to transition away from living on the streets. It's a very important part of our sector."*

In addition, Irene said:

*"This community would not be here without the fishing and seafood industries. The landscape is beautiful, and it's a unique spot, and because of the way that it is, geomorphologically and climatologically, we have these incredible resources here, and I think that we focus a lot around here on logging, but in terms of this community—Charleston, Coos Bay, North Bend—you really need to look to the fishing and seafood industries. That's what people do here... I think that it's overlooked, but I think the importance is more profound than people realize it is."*

*And when we look at upcoming projects that may impact our natural resources here, I'm speaking particularly about the LNG facility and pipeline, that when you look at these industrial projects that may come into the area and cause a great deal of upheaval to the bay, the waters, the soils, and then the possibility of leaks and all that other stuff that comes down the road, I think we don't pay enough attention to the fact of how that may completely negatively impact our fishing and shellfish industries and what that would actually do the community, because I think we don't pay enough attention to how important those industries are here and how much of our population actually is involved with those and how those play a role in so much of our lives. Again, I'm not speaking from numbers, but I personally believe that they are incredibly important to our community and to how our community formed and to the future of our community."*

### Seafood Processing as Part of the Identity and Culture of Coos County

By understanding the seafood processing workers' and employers' senses of place, it became clear that both groups' work and perspective on the industry helped create the culture and identity of the community. This theme was enhanced by the external viewpoints by several community service providers, expressing that the industry was integral to the identity of Coos County. It is known that fishing can contribute substantially to a community's identity as a nonmaterial benefit (Urquhart & Acott, 2014), but the seafood processing sector only occasionally is acknowledged as part of this. Urquhart & Acott (2014) argue that sense of place in fishing communities is rooted in both historical and current practice and does not just occur in the marine environment where the species are caught, but also has a land-based component when offloading and processing the catch. This sense of place connected to community identity is part of what Chan et al. (2012) describe as "intangible benefits" of fishing; important benefits that can be communicated and described, but not measured in the ways that other use-based ecosystem services are. In their work, Khakzad & Griffith (2016), for example, explain how fisheries can

contribute to the "socio-cultural wellbeing" of coastal communities. These socio-cultural contributions have historically been undervalued in management practices (Urquhart, et al., 2014). The seafood processing employers' and workers' as well as community service providers' sentiments about the ties between the industry and the community identity, outside of a purely economic standpoint, highlights a critical aspect of the importance of the industry. The challenges faced by the community as a whole as well as by the seafood processing workers expressed by the community service providers highlight the needs of the individuals living in Coos County.

## CONCLUSION

From the lived experiences of workers and employers in seafood processing as well as supplemented by the perspectives of community service providers, the industry clearly plays an important role in Coos County that goes beyond economic value. Through interviews, mapping, and the application of a sense of place lens, these roles can be identified and described. For many of the workers, their work duties served to connect them to the broader region, both to the local human community and the biophysical marine environment. It appears that this can cultivate a sense of belonging, both within Coos County and at their place of work, such as with their co-workers. The scale at which workers describe their sense of place is relatively small, however, when compared to what their employers experience. Employers, who have much longer histories within the seafood processing industry and who are constantly having to adapt to change, hold a wider view of place that expands beyond Coos County. Many of them spoke at length about the history of their business and the challenges they've faced, demonstrating a depth of essential

knowledge to successfully own or manage a processing plant. This knowledge contributes to the resiliency of the industry and its capacity to adapt to change. Despite their temporal and spatial differences in their senses of place, workers and employers alike describe the industry as being an integral facet of the culture and identity of Coos County. These socio-cultural contributions of the seafood processing industry must not be overlooked as a benefit to Coos County and to coastal Oregon.

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## CHAPTER THREE: CONCLUSIONS AND FUTURE DIRECTIONS

### CONCLUSIONS

#### The Seafood Processing Industry as a Vital Part of Coos County

This research examined seafood processing workers' and employers' sense of place mediated by their work in the industry and interwove the perspectives of community service providers in Coos County, Oregon. What emerged were several themes that linked to the importance of the industry to the region. The seafood processing workers and employers described that their work served to connect them to both the biophysical marine environment as well as the community in which the products are sold; and to their co-workers both enhanced their feelings of belonging. Employers described a sense of place on a wider geographic scale over a longer stretch of time, likely due to their length of time spent in the industry and a required attention on environmental changes and, in some cases, international seafood markets. This knowledge is valuable and might aid in employers enhancing resilience and adaptive capacity to future changes; it would likely be helpful for resource managers in making decisions that reflect the needs of the industry as well as the needs of the workers. The challenges that the industry faces, the workers face, as well as that the community faces are linked and often overlap; all of this is important to recognize and take into consideration when doing natural resource management, particularly as it includes social dynamics. Dealing with and adapting to uncertainty is part of the processing industry, which holds lessons for the future. Overall, participants from all three groups expressed that the seafood

processing industry plays a vital role in the Coos County region and is inextricably linked to the identity and culture of the place.

### Management Considerations: In Marine Resource Management, Place Matters

Though former approaches to marine resource management in the United States have been siloed and sectoral, it's now recognized that effectively managing marine resources requires holistically working in the context of an ecosystem which includes a complexity of both biophysical and social components. This coincides with the shift from considering purely ecological and biological concerns (Urquhart et al., 2014) and occasionally economic social components in fishing communities, to beginning to incorporate human dimensions as regular practice in management (Lyons, et al., 2016). The recognition of socio-ecological systems and the consideration of ecosystem connections – of which humans are a part – in marine and coastal environments is growing and is embedded as a principle of ecosystem-based management (Long, et al. 2015). This approach has led towards a fundamental shift in how management is done and has served as a call toward more interdisciplinary work, specifically through collaborations between social and biophysical scientists (Levin, et. al., 2016).

While firmly rooted in the social sciences, sense of place research is one lens commonly used to investigate human experiences in a given locale. "Place" does not solely reflect the biophysical environment, but the human communities and social systems as well. Sense of place reveals the connections between the many aspects of a singular geographic location. This approach can be particularly insightful when trying to understand and work with communities closely linked with

natural resources such as those working in fishing and seafood processing. Not only does sense of place research reveal how people experience their environment, but it also reflects how people shape a place. Because sense of place is both a “driver and an outcome of socio-ecological processes” (Masterson et al., 2017), it can reveal a large amount of information about the complex relationships that individuals have with their environment and how that influences attitudes and behavior (Devine-Wright (2011). In the case of this research, applying a sense of place lens to the seafood processing industry provides insight not only about the industry and those who work within it, but also into the community of Coos County itself. This information can provide key information to policymakers and natural resource managers who are actively engaged in community work. As Tuan (1977) describes, "what begins as undifferentiated space becomes place when we endow it with value". The values, both individual and collective, that are revealed through sense of place inquiry can be particularly useful when the perspectives of various stakeholders or a community must be taken into account. The experience of one can be vastly different than the experience of another. For example, in the case of this research, a seafood processing worker may struggle to find reliable transportation and affordable housing while dealing with the additional challenges and uncertainty that comes with seasonal wage-work; their use of time and space outside of work is limited. At the same time, an employer, while dealing with another set of work-related challenges inherent to managing or owning a processing plant, has a higher likelihood of having stable housing, transportation, and income, and may have more free time outside of work; their sense of place is more expansive. These different realities are co-occurring in the same place at the same time.

The inclusion of stakeholders in decision-making is another key facet of ecosystem-based management (Long, et al., 2015). Understanding different uses and experiences of place can amplify a diversity of voices and increase the inclusivity of decision-making (Quinn et al., 2019; Masterson et al., 2019), if deliberately used in that way. Additionally, the intangible benefits of an industry such as seafood processing described by a sense of place inquiry – such as being an integral part of a community's identity – should be considered when looking at a system holistically (Urquhart & Acott, 2014). This is particularly relevant in the case of seafood processing employers whose knowledge that spans a vast time and space could be incredibly valuable for resource managers and policymakers. Their perspectives on a multitude of dynamic and interconnected aspects that influence their businesses provide a unique wealth of knowledge.

## LIMITATIONS AND FUTURE RESEARCH

As with all scientific research, there were limitations to this study which must be made transparent. First and foremost, the voices and perspectives of the seafood processing workers were significantly limited, as the sense of place story was told from the point of view of six white workers. It is known that there are many Latinx workers, as well as workers of other ethno-racial identities who are present in the seafood processing industry. And, as previously described, the labor in the initial phases as well as some of the subsequent phases of the industry was conducted by Chinese, Japanese, Filipino, Puerto Rican, Mexican and Indigenous people. Though many Latinx workers were interviewed for the broader study, their experiences and

voices are, regrettably, not represented in this thesis due to the timeframe allotted. The perspectives shared by the white workers tell an important story, but it must be recognized that this is a very small sliver of the myriad place experiences of seafood processing workers. Due to the history, in particular, of the industry, the predominately white perspective shares only a brief snapshot in time of what it is like to be a seafood processing worker. It is hoped that this work will provide a framework and impetus for future sense of place research in the industry that will aim to fill these essential gaps in order to paint a broader picture of seafood processing as well as the social dynamics in Coos County. Outside of the issue of ethno-racial representation, the number of participants in all three groups – workers, employers, and community service providers – was relatively small; a fuller story could have been told with additional interviews. This being said, it was assured that thematic saturation was reached in all three groups of participants (Auerbach & Silverstein, 2003).

Because this research was a collaborative effort, another limitation is that multiple researchers conducted the interviews in this study. Some of the researchers are experienced social scientists, while I held only a few years' worth of experience and was new to this particular methodology. We all came with different approaches to the interview process as well as having our own positionalities that influenced how we engaged with the participants. Though we regularly held meetings to calibrate and "get on the same page" with the research process, developed interview guides jointly, and worked with the same interview questions, there were inevitable differences in how we asked questions and how we interacted with the people we were interviewing. In all, this project provides a few key groups' perspectives and experiences about how the seafood processing industry mediates their sense of place in the region. Their interviews and stories

highlight valuable information about the industry, how it has changed over time, and how it connects to a broader stretch of people and places. To enhance this effort and tell a more complete story, it is hoped that more individuals' senses of place will be listened to, examined, and shared in the future.

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## APPENDICIES

### Appendix A. English Consent Card

#### Verbal Consent

Oregon's Seafood Processing Workforce

**Thank you for meeting with us today.**

**Purpose:** We are studying what keeps seafood processing work vital, and how does this connect to community vitality. We reached out to you because of your experience in seafood processing employment or community resources. We would like to include your perspective in our research.

**Activity:** This interview is **focused on understanding what keeps seafood processing work vital**, and how does this connect to coastal community vitality. The **length** of the interview is up to you; they generally last from **30-90 minutes**.

**Voluntary and Confidential:** Your **participation is voluntary and you may refuse to answer any question for any reason**. In order to accurately reflect what you share with me, I will be audio recording this interview. **You have the right to decline recording and the right to withdraw** at any point in the interview. Information collected from you for this research will not be stored or distributed for future research. When the results of this study are published, your **identity will never be made public**.

**Risk / Benefit:** There are no possible risks and no direct benefits for participation. There's always the risk of a breach of confidentiality, but we will take every measure to minimize this risk.

**Sponsor:** This research is funded by Oregon Sea Grant.

**Contact information.** If you have any questions about your rights as an interview subject, you may ask now, email me at [johnmar5@oregonstate.edu](mailto:johnmar5@oregonstate.edu),

or contact the OSU IRB office at (541) 737-8008 or by email at [IRB@oregonstate.edu](mailto:IRB@oregonstate.edu).

**With that said, do you provide your consent to be interviewed for this research?**

OSU HRPP and IRB  
IRB NUMBER: IRB-2019-0133  
IRB APPROVAL DATE: 05/02/2019  
IRB EXPIRATION DATE: 05/01/2024

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**Contact information.** If you have any questions about your rights as an interview subject, you may ask now, email me at [johnmar5@oregonstate.edu](mailto:johnmar5@oregonstate.edu),

or contact the OSU IRB office at (541) 737-8008 or by email at [IRB@oregonstate.edu](mailto:IRB@oregonstate.edu).

**With that said, do you provide your consent to be interviewed for this research?**

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## Appendix B: Spanish Consent Card

### Verbal Consent Card

**Maldonado&Johnson:** El trabajo de Procesamiento de Mariscos en Oregon

#### Gracias por reunirse conmigo.

**Proposito:** Queremos entender cómo el trabajo y la industria de procesamiento de mariscos se mantienen vitales y como esto afecta a la comunidad de la costa. Le hemos contactado por su experiencia en el trabajo de procesamiento de mariscos en sobre recursos de la comunidad. Nos interesa incluir su perspectiva en este estudio.

**Actividad:** La entrevista esta enfocada en entender como el trabajo y la industria de procesamiento de mariscos se mantiene vital y como esto afecta a la comunidad costera. La duración de la entrevista dependerá de usted. Por lo general las entrevistas duran de media hora a 90 minutos.

**Voluntaria y Confidencial:** Su participacion en esta entrevista es voluntaria. Usted puede decidir no contestar cualquier pregunta. Para asegurarme de tomar nota fiel de lo que usted comparta, grabare un audio de la entrevista. Usted puede decidir discontinuar o que no se grabe cualquier parte de la entrevista. La informacion que usted provea no sera usada para otros estudios. Cuando se publiquen los resultados de este estudio, su identidad no se hara publica.

**Riesgos / Beneficios:** No hay riesgos ni beneficios directos por su participacion. Siempre existe el riesgo de que alguien pueda acceder a la información recopilada en este estudio, pero nos aseguraremos de tomar todas las medidas posibles para minimizar este riesgo.

**Apoyo Monetario:** Este estudio se lleva a cabo con fondos de Oregon Sea Grant.

**Contactos.** Si tiene alguna pregunta sobre sus derechos como participante en este estudio, puede hacerla en este momento, puede contactarnos por correo electronico ([johnmar5@oregonstate.edu](mailto:johnmar5@oregonstate.edu), o [Marta.Maldonado@oregonstate.edu](mailto:Marta.Maldonado@oregonstate.edu)), o puede contactar al la oficina de OSU IRB office al (541) 737-8008 or por correo electrónico a [IRB@oregonstate.edu](mailto:IRB@oregonstate.edu).  
¿Consiente usted a proceder con la entrevista?

### Verbal Consent Card

**Maldonado&Johnson:** El trabajo de Procesamiento de Mariscos en Oregon

#### Gracias por reunirse conmigo.

**Proposito:** Queremos entender cómo el trabajo y la industria de procesamiento de mariscos se mantienen vitales y como esto afecta a la comunidad de la costa. Le hemos contactado por su experiencia en el trabajo de procesamiento de mariscos en sobre recursos de la comunidad. Nos interesa incluir su perspectiva en este estudio.

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## Appendix C: Employer Interview Guide

1. \_\_\_What is your title/role here?
2. \_\_\_How long have you worked here?
3. \_\_\_Tell me **about this processor** and **Δ** over time.
  - a. \_\_\_How many # **facilities** do you have?
  - b. \_\_\_What **products** do you process? Seasons – harvest/process?
  - c. \_\_\_How much product annually? Changes over time?
4. Various **kinds of jobs** at this plant.
  - a. \_\_\_Entry-level/supervisory/management jobs
  - b. \_\_\_Jobs changed or disappeared over time
  - c. \_\_\_Where do different jobs happen? How set-up?
  - d. \_\_\_Operate year-round?
  - e. \_\_\_Multiple shifts?
  - f. \_\_\_Seasonality affects/shifts—how jobs reflect this
5. **Workforce** and **Δ** over time.
  - a. \_\_\_# of employees? This facility, other facilities?
  - b. \_\_\_How get/recruit workers? Easy to find workers?
  - c. \_\_\_Retention over time easy? Turnover challenges? Other challenges?
  - d. \_\_\_Men/Women different jobs/skills?
  - e. \_\_\_Latino or minority workers?
6. \_\_\_Role **technology** plays in processing and/or storing product and **Δ** over time..
7. Please share with me some of the “**external influences**” your industry faces.
  - a. \_\_\_Management – Catch Shares
  - b. \_\_\_Environmental – DEQ/Domoic/Whales
  - c. \_\_\_Markets
  - d. \_\_\_Housing/community needs/worker needs
8. \_\_\_What does seafood processing do for the **community**?
9. \_\_\_Is there anything else that you think people should know about seafood processing and its role in this community?
10. How long have you lived here and what do you think about Coos County?
  - a. \_\_\_Like about living here?
  - b. \_\_\_Change about this place?
  - c. \_\_\_How would you compare it to other places you’ve lived?
  - d. \_\_\_In what ways do you feel a part of Coos County?
  - e. \_\_\_In what ways do you feel unwelcome in Coos County?
11. \_\_\_Mapping exercise.

## Appendix D: Worker Interview Guide

1. \_\_\_\_ What is your title/role.
2. \_\_\_\_ How long have you worked here? How did you get into SP? Worked in **other plants**?
3. **Description of Work** - Tell me **about your work** and  $\Delta$  over time.
  - \_\_\_\_ When do you **start and end work** on a typical day? Breaks?
  - \_\_\_\_ What **products** do you handle?  $\Delta$ s throughout the year?
  - \_\_\_\_ Do you **work year-round**? Schedules vary by product? Other shifts at the plant?
  - \_\_\_\_ What do you do on a **typical day**? (*schedule, standing, sitting...*)
  - \_\_\_\_ Describe the **layout of the facilities** at your workplace.
  - \_\_\_\_ Are there **specific tools** that you use?
  - \_\_\_\_ **Training** for the job/tools. Training (task-related) and safety/risk, injury?
  - \_\_\_\_ Other **machines** that are used?  $\Delta$  over time? How impact your work?
  - \_\_\_\_ Safe workplace? Training? Had injuries/accidents? How deal with injuries?
  - \_\_\_\_ Do you have much **flexibility in your schedule**? Do you set your own? Sick leave?
  - \_\_\_\_ What challenges have you faced as a worker here?
4. **Worker Recruitment and Retention**
  - \_\_\_\_ How were you **recruited**? (personal networks, etc.)
  - \_\_\_\_ Can you tell me about how processing workers get paid? (weekly, hourly, piece/#'s)
  - \_\_\_\_ What is the typical pay at the processor? Do you mind sharing your typical pay?
  - \_\_\_\_ Are there **benefits or incentives** provided to retain workers? Other perks?
  - \_\_\_\_ In what ways can people advance or get promoted? Raises?
5. **Other workers/Morale/Satisfaction/Challenges**
  - \_\_\_\_ What is it like to work here? What do you like/dislike about it?
  - \_\_\_\_ Who else do you work with, is there much turnover? Staff morale?
  - \_\_\_\_ Do **men and women** do the same type of jobs?
  - \_\_\_\_ W: Are there people from other ethnicities that work here? Do they do the same kinds of jobs? Are they supervisors? Any difficulties with language or other issues for people from other ethnicities?
  - \_\_\_\_ L: Do you work with other Latinos here?
    - o Same jobs as other workers, or different jobs?
6. **Households** – We are interested in understanding how households get by collectively.
  - \_\_\_\_ Who **lives in your house**? And what roles do they play in the household?
  - \_\_\_\_ Who **works outside the home** (for pay) and who **works inside the home**?  $\Delta$  ?
  - \_\_\_\_ Other family members in Seafood Processing?
  - \_\_\_\_ Transportation. How do you **get to work**, public transportation, carpool, car, bike?
7. How do you **feel about seafood processing**?
  - \_\_\_\_ What does the seafood product that you are processing mean to you?
  - \_\_\_\_ What does seafood processing do for this community?
  - \_\_\_\_ What do you wish people knew about seafood processing and its role in this community?
8. *Transition from SP to your connections to this area.* How long lived here and what think about this place/Coos Co.?
  - \_\_\_\_ Like about living here?  $\Delta$  about living here?

- \_\_\_\_ How would you compare it to other places you've lived?
- \_\_\_\_ In what ways do you feel a **part** it? In what ways do you feel **unwelcome**?

9. \_\_\_\_ Mapping exercise

## Appendix E: Community Service Provider Interview Guide

1. \_\_\_ What is your title/role here?
2. \_\_\_ **Basic demographics** of this place, your organization, and  $\Delta$ s over time
  - Populations served (age, race, poverty/class, etc.) and vulnerabilities they face
  - Populations are most visible/invisible in the area
  - Where does [X population] tend to go in their free time?
  - What private spaces do you think of when you think of [X population]?
  - Demographic changes in the education system
  - Do young people find work and stay in the area?
  - Demographics of the staff here
3. \_\_\_ **Economics** of living and working here, and  $\Delta$  over time
  - What jobs do [X population] tend to do?
  - Are people outside SP aware of these jobs?
  - What jobs do you see more women in? Men? Young people? Older people?
  - What resources exist to support [X population]?
  - Are you aware of any policies that have changed the employment and housing situation in the area? Can you tell me about those changes?
  - We've heard that there's a housing shortage here. How are companies like AirBNB impacting housing here?
  - How much of the housing in the area is seasonal? Dedicated to tourism?
4. \_\_\_ **Resources/Services** are here and  $\Delta$  over time
  - What resources/social services do people here access most? Do these resources/services differ for different segments of the population?
  - Who typically takes advantage of/is given access to housing resources?
  - What percentage of that population is your organization able to serve?
  - What gaps do you see in resources/services and who is most affected by them?
  - Can you tell me about other resources?
  - Given the challenges that you've mentioned, can you tell me more about:
    - o Food (community-supported food network)
    - o Transportation
    - o Child and Elder care
    - o Utilities
    - o Healthcare
    - o Education
    - o Legal Services
    - o Cultural resources specific to [X population]
  - What role does tourism play in the local economy?
  - What populations work in the tourist industry here?
5. \_\_\_ **Ties between this place and other places** and  $\Delta$  over time
  - What public transportation options are there for getting to places outside the area?

- How much do these options cost?
  - Who takes advantage of them?
  - Who are they most accessible to?
  - What connections do people have outside of the area?
    - o Family
    - o Food networks
    - o Jobs
    - o Leisure/Play/Entertainment
    - o Culture
    - o Other?
  - Do they travel to maintain those connections?
  - Are new connections being made with other places? By whom/which populations?
  - What connections to other places are no longer active/have been severed?
  - What gaps do these other places fill for residents in the area?
    - o Family
    - o Food networks
    - o Jobs
    - o Leisure/Play/Entertainment
    - o Culture
    - o Other?
  - Does this differ among the populations your agency/organization serves?
  - We've heard that there's a shortage of professionals/"experts" such as doctors and lawyers. Can you tell us more about that?
6. What do you know about seafood processing in Coos County?
- Do you have any connections to the industry?
  - What does the **product** that is processed here **mean to you**?
  - What does seafood processing do for this community?
  - What do you wish people knew about seafood processing or other natural resources and its role in this community?
7. How long have you lived here and what do you think about Coos County?
- Like about living here? **Δ** about living here?
  - How would you compare it to other places you've lived?
  - In what ways do you feel a **part** it? In what ways do you feel **unwelcome**?