

Caring for Killer Whales: Multispecies Obligations in Wildlife Conservation

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## Foreword

In July of 2018, a young orca named Tahlequah gave birth to a calf who lived for only thirty minutes. Her story gained the world-wide attention of millions as she proceeded to carry her deceased calf on a thousand-mile “tour of grief” around the inland waters of Washington state and British Columbia, serving as a call-to-action for many residents of the region. Deceased calves are an unfortunate reality for the Southern Resident killer whales, the population of orca that she belongs to – an estimated 70% of pregnancies end in miscarriage.<sup>1</sup> Even in successful pregnancies, the survival rate of first-born calves is only 40% due to the manner in which persistent organic pollutants are “offloaded” from mothers to calves.<sup>2</sup> (PS, 22) Two years earlier, in 2016, Tahlequah’s sister had died from complications birthing her calf, who also died a few weeks later. The calf, only ten months old, was still reliant on his mother’s milk. At the time of his passing, his body was covered in rake marks – scratches and scars made by other killer whales – a result of the young calf’s family, including Tahlequah, holding him up to the surface to breathe. In summer of 2019, Tahlequah lost her mother as well. Currently only 73 Southern Residents remain.

While the Southern Residents are by no means the only cetaceans, or even the only orca population, that is currently facing extinction, they occupy an uncanny reality that is intertwined with the human histories of the Pacific Northwest. Members of the population adorn greeting cards, souvenir trinkets, and Alaska Airlines airplanes, all while serving as representations of an ecosystem that is now threatened by colonization and industrialization. The potential loss of the

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<sup>1</sup> Wasser SK, Lundin JI, Ayres K, Seely E, Giles D, Balcomb K, et al. (2017) Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (*Orcinus orca*). PLoS ONE 12(6): e0179824. <https://doi.org/10.1371/journal.pone.0179824>

<sup>2</sup> Sandra Pollard, “Puget Sound Whales for Sale.” (Arcadia Publishing, 2014), 22.

Southern Residents poses urgent questions for those who live in the region. The crux of those questions has best been described by journalist Lynda Mapes: “Can ours be a society that amid its prosperity secures a future for orcas and salmon too? Or will the Pacific Northwest lose its signature wild animals and become a place more like everywhere else?”<sup>3</sup>

In July 2019, *The Seattle Times* ran a poll asking readers to respond: do you still think of Tahlequah and her calf? Although about 150 people responded, one answer stuck out.

“Yes. Forever.”<sup>4</sup>

In many ways, the goal of this writing is to explore the ethical implications that arise from learning the histories, stories, and personalities of individual animals. This writing is focused on these relationships, particularly the everyday relationships between killer whales in the Pacific Northwest and the humans that observe, study, and live with them. Several overarching questions guide this work: What does it mean to care for members of another species? What are our obligations to the world and the non-human beings that live among it?

Understanding killer whales as individuals, especially within the Southern Resident population, is not a new or unique phenomenon. The whales’ saddlepatches serve as a form of identification, similar to a human fingerprint, allowing even a casual observer to denote the differences between the whales and recognize them as individually. In addition, all of the Southern Resident killer whales have been named through The Whale Museum’s orca adoption program, furthering the bonds that people have been able to make with the whales. This also gave rise to the often-touted slogan, “If we lose the Southern Residents, it will be the first

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<sup>3</sup> Lynda Mapes, “Orca: Shared Waters, Shared Home.” (Braided River Publishing, 2021), 23.

<sup>4</sup> Lynda Mapes, “Mother orca Tahlequah and her dead calf, one year later. How did she change the conversation?” *The Seattle Times*, July 24<sup>th</sup>, 2019. <https://www.seattletimes.com/seattle-news/environment/mother-orca-tahlequah-and-her-dead-calf-one-year-later-how-are-the-southern-residents-doing/>

extinction where every individual's name has been known.”<sup>5</sup> Similarly, if the Southern Residents are to go extinct, it will be the first time that a population has gone extinct and every individual has been known from birth.

Despite this ability to know individual whales, it is still relatively common for their stories to be forgotten over the years. Indeed, since the ending of governor Jay Inslee's Orca Task Force (a direct response to Tahlequah and her deceased calf) in late 2019, there has been much less attention paid to the Southern Resident killer whales. This July will mark the fifth-year anniversary of Tahlequah's tour of grief, and I often find myself wondering about what my colleagues, those who observed her from sunrise to sunset, remember and think about her story today. What about the tourists who witnessed her carrying her deceased calf on what they had intended to be a carefree vacation? The person who responded to the Seattle Times' survey with “Yes. Forever”?

In this thesis, I will investigate the manner in which emotional, powerful experiences with killer whales – such as my own experiences with Tahlequah – impact conservation and wildlife management efforts. The whale at the center of this story is Luna, an orca calf who turned up alone in a small inlet on the west coast of Vancouver Island. His story is poignant, and demonstrates many of the key questions I aim to answer. Though I have not personally met Luna, his story has resonated with me and reminds me of many killer whales that I have been able to know.

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<sup>5</sup> Jackie Hildering, “Extinction? Every individual's name was known,” The Marine Detective, March 6<sup>th</sup>, 2019, <https://themarinedetective.com/2019/03/06/extinction-every-individuals-name-was-known/>

# Introduction

## Knowing Killer Whales

The killer whale is often regarded as one of the most charismatic and well-loved cetacean species, due in no small part to their widespread captivity in marine parks around the world. However, this adoration is a relatively recent development in Western history. For centuries, the killer whale has been described as a bloodthirsty, dangerous predator in marine folklore. In first century CE, Pliny the Elder described killer whales as being “an enormous mass of flesh armed with savage teeth.”<sup>6</sup> This rhetoric was even prevalent in the mid-1970s, when US Navy diving manuals described the whales as extremely ferocious, intent on attacking human beings at any opportunity.<sup>7</sup> In addition to fear, there has also been animosity towards killer whales as a result of the belief that killer whales compete with humans for salmon. In November of 1910, the *Olympian Daily Recorder* celebrated two teenage boys who cornered a young killer whale in shallow water. The boys shot the orca’s eyes out and cut it apart with a knife. The orca lived through three hours of the brutal attack.<sup>8</sup> Even in more recent times, killer whales have been harmed for their dietary competition with humans. Tahlequah’s mother Princess Angeline, born in 1977, had a bullet scar near her right saddlepatch.<sup>9</sup> In Alaska, which is largely considered to have one of the densest killer whale populations in the world, killer whales have caused concern

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<sup>6</sup> Jason M. Colby, “Orca: How we came to know and love the ocean’s greatest predator.” (New York, Oxford University Press, 2018), 19

<sup>7</sup> Colby, *Orca*, 63.

<sup>8</sup> Mapes, *Orca*, 50.

<sup>9</sup> Wanyee Li, “Matriarch of well-known orca family is starving to death, B.C. researchers fear,” Toronto Star, January 9<sup>th</sup>, 2019, <https://www.thestar.com/vancouver/2019/01/07/head-of-famous-orca-family-is-starving-to-death-say-researchers.html>.

for fishermen due to their interference with longline fisheries.<sup>10</sup> In the 1980s, killer whales were blamed for reduced sablefish numbers in the Gulf of Alaska. Fishermen shot the whales on sight – during this time, thirteen whales were observed with gunshot wounds. In total, at least seven of these whales died.<sup>11</sup>

The first live-capture of a killer whale in the Pacific Northwest occurred in the waters of Boundary Pass in 1964.<sup>12</sup> His capture was an accident – he was intended to be killed by a shot from a harpoon that had been installed on the edge of Saturna Island.<sup>13</sup> His body would be utilized by the Vancouver Public Aquarium to create a life-like, educational sculpture of a killer whale.<sup>14</sup> The harpoon injured, but did not kill the young whale, later named Moby Doll. Moby Doll became the first captured Southern Resident killer whale, as well as the first captive killer whale to survive longer than two days in human care, subsequently marking the beginning of an onerous industry.<sup>15</sup> Between 1964 and 1976, about 47 Southern Resident killer whales – approximately one-third to one-half of the total population – were captured for sale in marine parks.<sup>16,17</sup>

1970 began the first federal study into killer whale demography and population health. Harbor seal biologist Dr. Michael Bigg was tasked with studying killer whales near central Vancouver Island to determine population demographics and an annual allowable capture

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<sup>10</sup> Emma Luck, “Orca depredation in Alaska: A dangerous game of risk and reward,” *Orcazine*, May 2018, <https://orcazine.com/alaska/>.

<sup>11</sup> Luck, “Orca depredation in Alaska.”

<sup>12</sup> Colby, *Orca*, 76-77.

<sup>13</sup> Colby, *Orca*, 76-77.

<sup>14</sup> Colby, *Orca*, 76-77.

<sup>15</sup> Pollard, *Puget Sound Whales for Sale*, 33.

<sup>16</sup> Pollard, *Puget Sound Whales for Sale*, 75

number.<sup>18</sup> Field studies began in 1971 and soon determined that the number of killer whales was far lower than previously imagined. In 1976, Dr. Ken Balcomb founded the Center for Whale Research on San Juan Island.<sup>19</sup> Balcomb found that there were only about 68 Southern Resident killer whales.<sup>20</sup> The low population led to a ban in killer whale captures in Washington State and British Columbia. Instead, a booming whale watching industry took its place. The first commercial whale watching tours in the region began on San Juan Island, Washington in the early 1980s.<sup>21</sup>

Early demographic studies in killer whales led to the discovery of what are now known as ecotypes, or distinct forms of killer whale. In the Pacific Northwest, these are divided into Resident and Transient orcas. This writing is particularly concerned with Resident orcas. Resident orcas have several key differences from Transients, primarily their salmon-focused diet and tight-knit, multi-generational family structure.<sup>22</sup> Resident killer whales can further be divided into three populations: Southern Residents, Northern Residents, and Alaska Residents. Of these populations, the Southern Residents are the least populous, most endangered, most studied, and most known to the general public. Killer whales do not interact outside of their population and speak what could best be described as completely different languages than each other.<sup>23</sup>

The Southern Resident killer whales have been declining in population since the capture era. Live captures were one of the main factors for the underlying demographic issues that are present in the population, as an entire generation of young killer whales was either sold or killed

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<sup>18</sup> Obee, Bruce, Graeme Ellis, Elaine Jones (ed.). *Guardians of the Whales: The Quest to Study Whales in the Wild*. (North Vancouver, British Columbia: Whitecap Books, 1992), 1–27

<sup>19</sup> “Our History,” Center for Whale Research. <https://www.whaleresearch.com/orcasurvey>

<sup>20</sup> “Our History,” Center for Whale Research. <https://www.whaleresearch.com/orcasurvey>

<sup>21</sup> Lynn Weber, “Tourism in the San Juans,” History Link, <https://historylink.org/File/20754>

<sup>22</sup> “About Orcas” Center for Whale Research. <https://www.whaleresearch.com/aboutorcas>

<sup>23</sup> “About Orcas” Center for Whale Research. <https://www.whaleresearch.com/aboutorcas>

during the capture era. Further concerns arise from declining salmon populations, increased urbanization and vessel traffic in critical habitat, and the presence of persistent organic pollutants in the whales' blubber. While the whales were officially listed on the Endangered Species List in 2005, the policy response has largely focused on the impacts of whale watching vessels and the implementation of small-scale boating guidelines, ignoring the larger, structural issues that impact the whales. These issues include the potential construction of pipelines, the key dams along the Columbia River, and a lack of transboundary protection efforts.

Killer whales rely heavily upon sound during their everyday activities. Resident killer whales utilize echolocation when finding and hunting salmon. When hunting, resident orcas spread out over a large area – it is not uncommon to observe killer whales hunting several miles apart from one another – allowing the whales to hunt independently.<sup>24</sup> Groups of mothers with young calves and juveniles usually hunt along the shoreline while mature males hunt offshore. Increased vessel traffic in the whales' preferred hunting spots such as Haro Strait, which has seen a 30% increase in vessel traffic since 1993, can mask the detection range of echolocation.<sup>25</sup> Research biologist Marla Holt has determined that a container ship moving at 21 knots about 1500 feet from killer whales can reduce the range of their echolocation by 85%.<sup>26</sup> Additionally, it is believed that Southern Residents are potentially losing up to five and a half hours of foraging time per day from May through September due to vessel noise, with two-thirds of those effects being from large commercial vessels and one-thirds being from whale watching boats.<sup>27</sup>

Perhaps one of the most important issues, yet least discussed, is the presence of persistent organic pollutants in the whales' blubber. These pollutants are stored in the blubber layers and

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<sup>24</sup> Personal observation

<sup>25</sup> Mapes, *Orca*, 98

<sup>26</sup> Mapes, *Orca*, 42.

<sup>27</sup> Mapes, *Orca*, 42.

released into the bloodstream when the blubber is metabolized, impacting fertility and immune responses.<sup>28</sup> Multiple Southern Resident whales have passed away from causes relating to these; it is very likely that Tahlequah’s calf was killed from the impacts of such pollutants.<sup>29</sup> Three months after her “tour of grief” in mid-2018, a study titled “Predicting global killer whale population collapse from PCB pollution” found that several orca populations – including those in the Pacific Northwest – are trending towards extinction due to the impacts of these pollutants.<sup>30</sup> ORCA director Lucy Babey responded to the study, stating “Our abysmal failures to control chemical pollution ending up in our oceans has caused a killer whale catastrophe on an epic scale.”<sup>31</sup>

### **Telling Killer Whale Stories**

In many ways, killer whale research relies on the process of narrativizing individuals and providing them with concrete histories, personalities, and stories. The ability to identify individual whales through dorsal fins and saddlepatches, along with the life-long bonds between the orcas, encourages this, as does the promise of environmental outreach as a means of communicating environmental concerns. The effectiveness of such campaigns is often debated, and certainly serves as a focal point in whale conservation. However, the Southern Residents are

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<sup>28</sup> “Southern Resident killer whales,” United States Environmental Protection Agency, <https://www.epa.gov/salish-sea/southern-resident-killer-whales>

<sup>29</sup> Wasser SK, Lundin JI, Ayres K, Seely E, Giles D, Balcomb K, et al. (2017) Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (*Orcinus orca*). PLoS ONE 12(6): e0179824. <https://doi.org/10.1371/journal.pone.0179824>

<sup>30</sup> J. P. Desforges, A. Hall, B. McConnell, A. Rosing-Asvid, J. L. Barber, A. Brownlow, S. De Guise, I. Eulaers, P. D. Jepson, R. J. Letcher, M. Levin, P. S. Ross, F. Samarra, G. Víkingsson, C. Sonne, R. Dietz, Predicting global killer whale population collapse from PCB pollution. *Science* **361**, 1373–1376 (2018). 10.1126/science.aat1953

<sup>31</sup> Damian Carrington, “Orca ‘apocalypse’: half of killer whales doomed to die from pollution,” *The Guardian*, <https://www.theguardian.com/environment/2018/sep/27/orca-apocalypse-half-of-killer-whales-doomed-to-die-from-pollution>.

unique even among whale populations – while typically only research biologists know and remember individuals, the Southern Residents names are utilized by many, even those who have never interacted with them. At times, their “whale stories” are globally reported on, such as with the death of matriarch Granny, or Tahlequah’s tour of grief.

The recognition of the individual is an important, and perhaps unavoidable, aspect of killer whale research. The recognition of individuals provides an intriguing space for scientific inquiry and opens potential for nuanced study of animal behavior and detailed population analysis. While this ability is certainly not limited to killer whales (it is also possible with many species, such as other cetaceans, wolves, and primates) it does represent a departure from the norm in wildlife science, which conventionally works to obscure individuality<sup>32</sup> through a focus on the study of the collective group. While this shift has been well-documented and analyzed in primate research, I argue that it has a similar effect in killer whale research – namely, the change from “not only observation *of*, but also *among*” the wildlife being studied.<sup>33</sup>

This observation *among* wildlife presents a multifaceted foray into the act of multispecies storytelling. Multispecies storytelling, or multispecies ethnography, is a rapidly growing methodology of ethnographic research that seeks to “acknowledge the interconnectedness and inseparability of humans and other life forms.”<sup>34</sup> Multispecies ethnography challenges the binaries between humans and nature, and between humans and nonhumans. Writings that utilize this methodology analyze the ways in which nonhuman organisms shape and are shaped by political and cultural forces.

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<sup>32</sup> Mira Shah, “Animal Life Stories, or, the Making of Animal Subjects in Primatological Narratives of Fieldwork,” *Animal Biography: Reframing animal lives*, (Springer Nature, 2018), 120

<sup>33</sup> Mira Shah, *Animal Biography*, 120

<sup>34</sup> S. Eben Kirksey, Stefan Helmreich, “The Emergence of Multispecies Ethnography,” *Cultural Anthropology*, Vol 24 Issue 4 (2010), 545 – 576.

Multispecies ethnography has primarily focused on domesticated animals, such as those in the agricultural industry or in scientific laboratories. Kathryn Gillespie's *The Cow with Ear Tag #1389* (2018) follows moments in individual cows' lives in the dairy industry. She relies on multispecies ethnography to "combat the act of forgetting and looking away" that so often happens with nonhuman animals who form the basis of the food commodity chain.<sup>35</sup> In addition, there has been increased interest in the study of non-domesticated animals through this perspective. In *Flight Ways: Life and Loss at the Edge of Extinction* (2014), Thom van Dooren studies the "particularities of real animals and their worlds."<sup>36</sup> Each chapter focuses on the lived experiences of a species of bird, putting animal behavior, conservation biology, and philosophy in conversation to transform nonhuman animals from "abstract entities" to complex beings.<sup>37</sup>

In this writing, I attempt to grapple with our obligations to other species through an exploration of the methodology of multispecies ethnography. This is an effort to sit with and understand the lived realities of Luna, a juvenile killer whale who became the subject of controversy and political discourse regarding humans' relationships with animals. This is the culmination of similar, smaller-scale projects that I have accomplished during my time at the University of Alaska Southeast, such as my "[killer whale storytelling](#)" ArcGIS Storymap. Much of the knowledge collected and narrated here is fragmented, only small moments of Luna's life, who in turn only represents a miniscule portion of the killer whales who have been commodified, killed, or otherwise profoundly impacted by their encounters with humans. Many of the sources utilized regarding Luna are primary documents featuring eyewitness accounts of the defining moments in his life. These documents have been collected and archived ("[The Luna File](#)") by

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<sup>35</sup> Kathryn Gillespie, *The Cow with Ear Tag #1389*, (University of Chicago Press, 2018), 14.

<sup>36</sup> Thom van Dooren, *Flight Ways: Life and Loss at the edge of extinction*, (Columbia University Press)

<sup>37</sup> Dooren, *Flight Ways*.

Orca Conservancy, a non-profit who was involved with Luna's story and has several current initiatives to further scientific research and advocacy for the Southern Resident killer whales. While researching, I have found that there was often little continuity between such sources. It was common to find numerous articles written during a single week, only to have no information regarding the next several months of Luna's life. In addition to describing Luna and his life, I provide historical narrative regarding the ways in which humans and killer whales are connected in the Pacific Northwest through two lenses, management and capture. These sections emphasize how animals such as Luna are "entangled in political, economic, and cultural systems."<sup>38</sup> While the study of killer whales in this manner also has important implications and room for fruitful analysis within the fields of animal studies, extinction studies, and Science studies, that is beyond the scope of this project and will be addressed in future work.

I am writing this as someone who often sits in between disciplinary fields, with much of my work experience stemming from the realm of biological research and my academic training coming primarily from the humanities. While I was too young to have met Luna, I have had similar fleeting, momentary relationships with killer whales in the Southern Resident, Alaska Resident, and Transient populations. These momentary relationships are "embodied reminders" of the "fractured quality of their lives and social relations and the abstracting effects of commodification from the lived experiences of those who are commodified."<sup>39</sup> It is my hope that future generations of killer whales and all other nonhuman animals may escape this fate.

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<sup>38</sup> Eben Kirksey, *The Multispecies Salon*, (Duke University Press, 2014), 2.

<sup>39</sup> Gillespie, *The Cow with Ear Tag #1389*, 26.

# Management and Capture

## Human-Wildlife Interactions and Whale Watching

Whale watching has been a major industry in North America since the late 1970s and early 1980s. Whale watching has the potential to completely transform coastal communities, such as with Kaikōura, New Zealand, where the number of annual visitors rose from 3,400 to 873,000 in the decade following the introduction of whale watching tourism.<sup>40</sup> Commercial whale watching falls under the category of eco-tourism, a contentious and polarized concept that has no shortage of critiques. While whale watching is common in almost every coastal community in Washington State and British Columbia, the center of the activity is Washington's San Juan Islands, a remote island archipelago located about 90 miles northwest of Seattle. The first commercial whale watching tours began in the San Juans in 1980, during "tourism's troubled times."<sup>41</sup> Ecotourism, or "green" tourism, is at the center of these "troubled times." As stated by tourism studies scholar Brian Wheeler, "by clothing itself in a green mantle, the industry is being provided with a shield with which it can both deflect valid criticism and improve its own image, while, in reality, continuing its familiar short tourism commercial march."<sup>42</sup>

Boat-based and shore-based whale watching are the largest tourism drivers in San Juan County. A 2019 report analyzing the whale watching economy in the San Juans found that in the potential scenario of Southern Resident orca population collapse, 78% of Washingtonians would

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<sup>40</sup> "The benefits and impacts of whale watching," The International Whaling Commission. <https://wwhandbook.iwc.int/en/responsible-management/benefits-and-impacts-of-whale-watching>

<sup>41</sup> James Higman, "Ecotourism: competing and conflicting schools of thought." *Critical Issues in Ecotourism: Understanding a Complex Tourism Phenomenon*, 2.

<sup>42</sup> Higman, "Ecotourism," 2.

no longer visit the Islands.<sup>43</sup> Commercial, or boat-based, whale watching contributes a total economic output of \$216 million per year in San Juan County and employs 13% of the county's total residents.<sup>44</sup> While this may seem that whale watching is living up to the promise of ecotourism – the potential for economic transition, regional development, and creation of employment opportunities – it is important to understand the context that surrounds the growth in tourism and whale watching. A 2020 study into tourism and visitor management in the San Juans, prepared by SJ County Land Bank, found that most tourism employees in the San Juans were seasonal non-residents.<sup>45</sup> The availability of work was one of the lowest-ranked reasons for living in the San Juans, indicating that the increase in tourism-related employment is not a driving factor for living in the islands.<sup>46</sup> In addition, tourism levels have led to a severe shortage of available housing, with approximately half of available homes being taken up by vacation rentals and second homes belonging to non-residents.<sup>47</sup> The same study found that more than half of island residents surveyed did not believe that increased economic opportunities should lead to changes in “island way of life.”<sup>48</sup>

In 2020, there were twenty-eight different whale watching companies departing from nineteen ports in Washington and British Columbia.<sup>49</sup> About 500,000 people embark on a commercial whale watching trip from these companies every year.<sup>50</sup> Historically, almost every tour observed the Southern Residents. The vessels and whales had a pattern: as the whales

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<sup>43</sup> “The Whales in our Waters: the economic contribution of whale watching in San Juan County” Earth Economics, 17.

<sup>44</sup> “The Whales in our Waters: the economic contribution of whale watching in San Juan County” Earth Economics, 2019, 21.

<sup>45</sup> “Tourism and Visitor Management in the San Juan Islands,” 2020.

<sup>46</sup> “Tourism and Visitor Management in the San Juan Islands,” 2020.

<sup>47</sup> “Tourism and Visitor Management in the San Juan Islands,” 2020.

<sup>48</sup> “Tourism and Visitor Management in the San Juan Islands,” 2020.

<sup>49</sup> Mapes, *Orca*, 100

<sup>50</sup> Mapes, *Orca*, 100

followed their near-daily ritual of foraging for salmon along the west side of San Juan Island (aptly dubbed the “west side shuffle”), whale watching vessels idled alongside the shore of the island.<sup>51</sup> The killer whales traveled under the boat as they continued north, providing passengers with up-close views of the whales.<sup>52</sup> Nowadays, with the numerous, complex whale watching restrictions and the Southern Residents relative disappearance from the inland Salish Sea, they only make up about 10-15% of the whales that are observed on whale watching tours.<sup>53</sup> Instead, most companies have transitioned to observing Transient killer whales, humpback whales, and grey whales.<sup>54</sup>

In the San Juan Islands, commercial whale watching has been a controversial concept since its inception in the 1980s. Vessel noise has been shown to impair whale communication and foraging, and may displace whales from preferred areas.<sup>55</sup> Models have shown that Southern Resident killer whales may lose up to five and a half hours of foraging time per day from May through September due to vessel noise and avoidance behaviors near ships.<sup>56</sup> Even quieter vessels, such as kayaks, reduce the time that killer whales spend foraging by 15-20%.<sup>57</sup> That time is instead replaced with surface-active behaviors, such as breaching, tailslapping, or spyhopping.<sup>58</sup> While these behaviors are entertaining to observe, they are likely occurring at such

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<sup>51</sup> Personal Communication, 2019.

<sup>52</sup> Personal Communication, 2019.

<sup>53</sup> Mapes, *Orca*, 103.

<sup>54</sup> Personal Communication, 2019.

<sup>55</sup> Noren DP, Johnson AH, Rehder D, Larson A (2009) Close approaches by vessels elicit surface active behaviors by southern resident killer whales. *Endang Species Res* 8:179-192. <https://doi.org/10.3354/esr00205>

<sup>56</sup> Mapes, *Orca*, 43

<sup>57</sup> Noren DP, Johnson AH, Rehder D, Larson A. Close approaches by vessels elicit surface active behaviors by southern resident killer whales, 2009.

<sup>58</sup> Noren DP, Johnson AH, Rehder D, Larson A. Close approaches by vessels elicit surface active behaviors by southern resident killer whales, 2009.

an increased rate due to the close approaches of vessels. Surface-active behaviors were found to increase even when vessels were obeying the legal approach of 300 yards.<sup>59</sup>

The majority of whale watch operators in the region are members of the Pacific Whale Watch Association (PWWA).<sup>60</sup> Established in 1994, PWWA is a body of whale watch operators who create voluntary guidelines for whale watching, work to create comprehensive standards for tours, and share whale sightings.<sup>61</sup> Members of PWWA consider themselves to be “sentinels on the water”: responsible boaters who could model appropriate whale watching practices for others. As a 2022 study by Monika W. Shields of the Orca Behavior Institute found, the number of high-risk boating incidents in Haro Strait (either distance or speed related infractions) decreased by 50% in the presence of commercial whale watching vessels. However, the overall incident rate is still high, with an observed rate of 1.7 per hour for Southern Residents and 5.2 per hour for transient killer whales.<sup>62</sup> The majority (44%) of high-risk boating behavior involves distance infractions, or getting closer to the whales than the legal limit allows.<sup>63</sup> More research is needed about what has been coined as the “sentinel vs. magnet effect,” the sentinel effect being the potential for commercial whale watch vessels to model correct boating behavior and intervene in potential boating violations, and the magnet effect being the attraction of additional vessels to the vicinity of commercial whale watchers who are actively observing whales.<sup>64</sup>

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<sup>59</sup> Noren DP, Johnson AH, Rehder D, Larson A. Close approaches by vessels elicit surface active behaviors by southern resident killer whales, 2009.

<sup>60</sup> “Members,” Pacific Whale Watching Association. <https://www.pacificwhalewatchassociation.com/members>

<sup>61</sup> “The Association,” Pacific Whale Watching Association. <https://www.pacificwhalewatchassociation.com/about-the-association>

<sup>62</sup> Monika W. Shields, Commercial whale-watching reduces vessel incidents in the vicinity of killer whales in Washington State. *Marine Policy*, Volume 145. 2022.

<sup>63</sup> Shields, Commercial whale-watching reduces vessel incidents in the vicinity of killer whales in Washington State. 2022.

<sup>64</sup> Shields, Commercial whale-watching reduces vessel incidents in the vicinity of killer whales in Washington State. 2022.

An alternative to boat-based whale watching exists in the form of land-based whale watching. While land-based whale watching can happen anywhere on the coast at any time, an organization known as The Whale Trail has created a connected network of whale watching sites reaching from southern California to Prince Rupert, British Columbia.<sup>65</sup> Perhaps the most famous land-based whale watching site is Lime Kiln Lighthouse, located on the west side of San Juan Island, Washington. Lime Kiln, a “Whale Trail” spot and state park, has been heralded as the best place in the world to observe killer whales from land.<sup>66</sup> This is due to the steep rock faces that the killer whales herd salmon against, allowing for easy hunting.<sup>67</sup> For human viewers, experiences at Lime Kiln are often unable to be replicated on a commercial whale watching vessel. It is not uncommon for whales to surface inches away from where people are sitting on the shoreline.<sup>68</sup> Because shore-based whale watching has little to no direct impacts on the whales, it is often recommended as an ethical alternative to boat-based whale watching.

In 2018, Washington State Governor Jay Inslee established the Orca Task Force, a group of scientists and legislators who developed proposals targeting orca recovery and sustainability.<sup>69</sup> The topic of whale watching and management of human-whale interactions was one of the four primary goals for conserving the Southern Resident killer whales.<sup>70</sup> Of the twelve recommendations for decreasing impacts caused by vessels, only five have been implemented in the four years since the task force ended.<sup>71</sup> Those implemented include:

1. Increasing the buffer space to 400 yards when traveling behind Southern Residents.

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<sup>65</sup> “Whale Trail Sites,” The Whale Trail. <https://thewhaletrail.org/regions/>

<sup>66</sup> “Lime Kiln Point State Park,” Washington State Parks. <https://www.parks.wa.gov/540/Lime-Kiln-Point>

<sup>67</sup> “Lime Kiln Point State Park,” The Whale Trail. <https://thewhaletrail.org/sites/lime-kiln-state-park/>

<sup>68</sup> Personal Communication, 2018.

<sup>69</sup> “Protecting Orcas from Extinction,” State of Washington Department of Ecology. <https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Protecting-orcas/Orca-task-force>

<sup>70</sup> “Final Report and Recommendations.” Southern Resident Orca Task Force, 2019.

<sup>71</sup> “Final Report and Recommendations.” Southern Resident Orca Task Force, 2019.

2. Accelerating the transition to quieter, more fuel-efficient state ferries.
3. Increasing enforcement capacity.
4. Establishing a limited-entry permit system for commercial whale watching vessels.
5. Establishing a “slow-go bubble” within half a nautical mile of Southern Residents.

Unfortunately, progress on implementing the orca conservation recommendations has slowed to a halt. During 2020, Governor Inslee vetoed multiple bills, including the next stage of the orca task force recommendations.<sup>72</sup> It is unclear if they will be implemented in the future.

### **Capturing Killer Whales**

Prominent Seattle resident Ted Griffin had always longed to create a marine park of his own. Griffin loved animals: when he was young, he built an 8000 gallon aquarium behind his parent’s house, which he used to house pet gulls, lungfish, and otters.<sup>73</sup> A close encounter with killer whales outside his home led him to question the ways in which killer whales were made out to be monsters. He recalled his feelings about the matter in 2018, with journalist Lynda Mapes: “The world is confused about the whale...to me, he is just another pet, somebody to make friends with. In my mind, I had already accepted the whale as a companion. And a friend.”<sup>74</sup> In 1962, Griffin leased a warehouse on the Seattle waterfront, a place to display marine creatures that he caught and collected.<sup>75</sup> He enlisted help in collecting the creatures, primarily fishes and invertebrates, from a local diving club.<sup>76</sup> He recalls him and his team spending the

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<sup>72</sup> “Protecting Orcas from Extinction,” State of Washington Department of Ecology. <https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Protecting-orcas/Orca-task-force>

<sup>73</sup> Mapes, *Orca*, 50.

<sup>74</sup> Mapes, *Orca*, 50.

<sup>75</sup> Colby, *Orca*, 65.

<sup>76</sup> Colby, *Orca*, 65.

spring on San Juan Island, capturing specimens to be displayed, when a large pod of killer whales (likely Southern Residents) appeared around them. “So many...couldn’t I get just one?” he thought.<sup>77</sup>

Griffin’s aquarium opened in time with the World’s Fair in June 1962.<sup>78</sup> His first display of marine mammals, a pair of sea lions named Gertie and Gus, began in fall of that year.<sup>79</sup> The sea lions were trained to perform in shows along with Griffin. During this time, concern began to grow among local fishermen, who noticed salmon populations were declining. Many blamed the killer whales. As a fisherman wrote to *The Seattle Times*, “When the killer whales enter Deception Pass, the king salmon become frightened and head for the mouth of the Skagit River.”<sup>80</sup> While the decline of salmon stocks was due to numerous factors, none of which related to killer whales, fishermen had long been wary of the whales. It was not uncommon for killer whales to be seen with bullet holes in their blubber.<sup>81</sup>

Griffin sought help from the federal government’s marine mammal laboratory, located at the University of Washington. While this was the only laboratory focused entirely on marine mammals in North America, it was primarily concerned with the commercial use of marine mammals.<sup>82</sup> Members of the lab regularly killed killer whales, or directed whalers to kill them whenever the chance arose.<sup>83</sup> Not only was it believed that killer whales were deadly animals, but it was also believed that they interfered with the lucrative harvest of fur seals.<sup>84</sup> Griffin turned to

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<sup>77</sup> Colby, *Orca*, 66.

<sup>78</sup> Colby, *Orca*, 67.

<sup>79</sup> Colby, *Orca*, 67.

<sup>80</sup> Colby, *Orca*, 68.

<sup>81</sup> Wanyee Li, “Matriarch of well-known orca family is starving to death, B.C. researchers fear,” Toronto Star, January 9<sup>th</sup>, 2019, <https://www.thestar.com/vancouver/2019/01/07/head-of-famous-orca-family-is-starving-to-death-say-researchers.html>.

<sup>82</sup> Colby, *Orca*, 72.

<sup>83</sup> Colby, *Orca*, 74.

<sup>84</sup> Colby, *Orca*, 74.

utilizing a harpoon shot from helicopter in an attempt to catch a live orca for his aquarium. All attempts were unsuccessful – the killer whales quickly learned to avoid the noise of the helicopter, choosing to tilt sideways when surfacing to keep their large dorsal fins from giving away their location.<sup>85</sup> The mature females surfaced in unison far from the rest of the pod in an effort to draw the helicopter away from the young calves.

In 1965, two fishermen were salmon fishing in the small cannery town of Namu, British Columbia, located about 100 miles north of the tip of Vancouver Island.<sup>86</sup> Namu was a common stopover for fishermen on their way to Southeast Alaska during the summer. On a windy night, a loose gill net trapped two killer whales, believed to be Northern Residents, between a reef and rocky outcropping.<sup>87</sup> After a few days, the youngest of the whales – estimated to be a young calf – escaped the netting, leaving an older male behind.<sup>88</sup> Realizing that killer whales were worth far more than salmon, the two fishermen began making calls. Ted Griffin offered \$8000 (\$70,000 in 2022) for him – five thousand for the whale and three thousand to replace the nets.<sup>89</sup> Griffin still remembers the first time he met this whale: “My God, I am crying, I can barely keep my mask on. It is indescribable. What has happened is that all those years I am wanting an animal to say hello, and one has. I am thunderstruck.”<sup>90</sup> The whale, named Namu, was towed in a floating sea pen from British Columbia to Seattle, Washington.<sup>91</sup> Namu’s family, three other killer whales, including the young calf that was trapped with him behind the rocky outcropping, followed the

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<sup>85</sup> Colby, *Orca*, 97.

<sup>86</sup> Pollard, *Puget Sound Whales for Sale*, 38.

<sup>87</sup> Pollard, *Puget Sound Whales for Sale*, 36.

<sup>88</sup> Colby, *Orca*, 99.

<sup>89</sup> Colby, *Orca*, 100.

<sup>90</sup> Pollard, *Puget Sound Whales for Sale*, 36.

<sup>91</sup> The sea pen was constructed by Griffin by welding metal bars to form a 3-sided pen. The open side of the pen had a net hung across it. Empty oil drums kept the pen afloat. (PS, 38)

floating sea pen, calling out to Namu.<sup>92</sup> The whales stayed relatively calm until they passed through Seymour Narrows in Johnstone Strait<sup>93</sup>. Namu whistled loudly and attempted to escape the pen, tangling his dorsal fin in the side netting. As described in a crew member's journal, "Namu lets out a terrifying squeal, almost like a throttled cat... There was terrific thrashing and he is making all kinds of sounds." (PS, 39) Historian Jason Colby writes in *Orca*, "they were approaching the dividing line between the northern and southern resident killer whales... up to this point, the captive orca may have allowed himself to believe that, wherever he was going, his mother and siblings were going too. At this moment, he may have realized they would follow no farther."<sup>94</sup>

Though they were still far from their destination, word of Namu's eventual arrival in Seattle led to a major craze. People hurriedly bought t-shirts, coloring books, and pins, and as stated by one reporter, "locals seemed determined to turn Namu into a Seattle fetish bigger than the space needle [*sic*]."<sup>95</sup> Namu's capture made headlines around the world. His vocalizations were played hourly on Bob Hardwick's radio station.<sup>96</sup> In one particularly memorable day, it is estimated that seven thousand spectators gathered on the Deception Pass Bridge between Whidbey and Fidalgo Islands to observe Namu enter Puget Sound, creating a traffic jam that lasted over eight hours. Many boaters joined Griffin and Namu, forming a large flotilla as they headed towards Seattle.<sup>97</sup> However, Namu's arrival was not celebrated by all: a "Free the Whale"

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<sup>92</sup> Colby, *Orca*, 107.

<sup>93</sup> Seymour Narrows is considered by some to be the cultural dividing point in "territory" between Northern and Southern Resident killer whales. However, there have been recent sightings of Northern Resident killer whales traveling south of this point. In 2000, nine Northern Resident killer whales were seen from the west side of San Juan Island, the first time they had ever been documented south of Howe Sound, British Columbia. While this was an extremely rare circumstance, Northern Residents do occasionally travel within reach of whale watching companies located near Vancouver.

<sup>94</sup> Colby, *Orca*, 109

<sup>95</sup> Colby, *Orca*, 112

<sup>96</sup> Pollard, *Puget Sound Whales for Sale*, 42

<sup>97</sup> Pollard, *Puget Sound Whales for Sale*, 43.

movement began in Pt. Hardy and Seattle, with protestors shouting at Griffin and waterfront shop owners selling Namu merchandise.<sup>98</sup> Within a few days, Namu was living in Griffin's aquarium. Griffin and Namu arrived in Seattle on July 28<sup>th</sup>, 1965, a day aptly deemed "Ted Griffin and Namu Day" by the mayor of Seattle.<sup>99</sup>

Since his first encounter with killer whales in 1961, one of Griffin's primary goals in capturing a live killer whale was to swim with it. It took him several months to work up the courage to do so, but his eventual swim with Namu is widely credited as being one of the most impactful moments in the history of killer whales. As stated by NOAA biologist Mark Keyes, "By that single act of going into the water with Namu, Ted Griffin contributed more to the conservation and appreciation of killer whales by societies of the world than all biologists and conservationists put together, since the dawn of time to that moment."<sup>100</sup>

In 1966, Namu fell ill. His skin was covered in abrasions and open cuts, his tall dorsal fin fell to the side, and he showed little interest in food.<sup>101</sup> On July 9<sup>th</sup>, Griffin responded to an urgent call regarding Namu's health. He was erratically circling the tank, breaching and crashing into its sides.<sup>102</sup> His weight and speed damaged the steel cables underneath the tank.<sup>103</sup> Namu became entrapped in the cables and unable to escape, he drowned.<sup>104</sup> A later necropsy showed that *Clostridium perfringens*, a common cause of food poisoning, was aggravated due to raw sewage present in his pen.<sup>105</sup>

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<sup>98</sup> Pollard, *Puget Sound Whales for Sale*, 39 – 42

<sup>99</sup> Mapes, *Orca*, 52.

<sup>100</sup> Colby, *Orca*, 119

<sup>101</sup> Mapes, *Orca*, 56

<sup>102</sup> Colby, *Orca*, 133

<sup>103</sup> Colby, *Orca*, 133

<sup>104</sup> Colby, *Orca*, 133

<sup>105</sup> Mapes, *Orca*, 55.

After death, it was learned that Namu belonged to the C1 pod of Northern Resident killer whales.<sup>106</sup> His mother Kwattna died in 1995 at the presumed age of 71; his sister Koeeye, born in 1971, is still alive today. Growth rings in Namu's teeth showed that he was around seventeen years old when he died. Namu's carcass was donated to the Virginia Mason Research Center in Seattle, and his skull was displayed at the Burke Museum of Natural History and Culture at the University of Washington.<sup>107</sup> Struck by his death and his desire to learn more about killer whales, Ted Griffin turned his capture skills into a full-time business.<sup>108</sup>

1967 saw the first major capture of Southern Resident killer whales: ten whales from K pod. Of those captured, three females and two males were selected for sale. In addition, three whales died during the captures, and two were released. George W. Klontz recorded a detailed account of what occurred after a whale was captured. Initially, the whales were injected with dexamethazone, used to treat inflammation, and pentylenetetrazol, used to offset the effects of physiological shock.<sup>109</sup> Water was continually sprayed over the whales to prevent dehydration during the journey to Seattle. The whales were force-fed a mixture of homogenized herring, supplements, and vitamins through a rubber hose inserted in the throat. Once acclimated, the whales were given some basic training, then sold to marine parks around the world.

In August of 1970, Griffin made his largest catch ever – he had over 90 killer whales, a Southern Resident superpod, trapped behind his nets in Penn Cove, a small bay in eastern Whidbey Island.<sup>110</sup> Possibly the entire population of Southern Residents were trapped behind his

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<sup>106</sup> Mapes, *Orca*, 54

<sup>107</sup> Pollard, *Puget Sound Whales for Sale*, 44.

<sup>108</sup> Colby, *Orca*, 137.

<sup>109</sup> Pollard, *Puget Sound Whales for Sale*, 54.

<sup>110</sup> Colby, *Orca*, 243.

nets. It was too many whales to handle. 12 of the whales were calves, less than a year old.<sup>111</sup> The whales spyhopped repeatedly as they let out “high-pitched shrieks and cries.”<sup>112</sup> A floating pen was set up to separate the mothers from their calves. Lyla Snover, resident of Penn Cove and witness to the captures, described the scene as follows: “It was terrible, just terrible – like a prison camp, it was awful...and I think everybody that remembers it will tell you that. It was one of the most horrible things I’ve witnessed in my life.”<sup>113</sup>

Many of the Southern Resident killer whales that people today know and love were present during the Penn Cove captures. One such whale is Ruffles of J pod. During the Penn Cove captures, John Colby Stone took his boat out with Wallie Funk, former editor and co-owner of several local newspapers.<sup>114</sup> During the captures, Ruffles circled Stone’s boat inches away, following Stone and Funk from bow to stern. Thirty years later, while boating in the San Juan Islands, Stone had a similar encounter with Ruffles: “Stone watched Ruffles swim alongside his boat, the *Cutty Sark*. The big male rolled slowly over to one side, his knowing eye fixed on Stone. Did Ruffles remember him from those days in Penn Cove?”<sup>115</sup>

During the Penn Cove capture, hundreds of cars lined up along the side of the road, full of passengers eager to catch a glimpse of the excitement. Opinions on the captures were mixed. Many disapproved, such as one woman who claimed that the whales should “get together and smash the nets and boats.”<sup>116</sup> However, some spectators did not care or encouraged the sale of the killer whales. Five whales died during the Penn Cove Captures, four calves and one adult female,

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<sup>111</sup> Colby, *Orca*, 250.

<sup>112</sup> Pollard, *Puget Sound Whales for Sale*, 82.

<sup>113</sup> Pollard, *Puget Sound Whales for Sale*, 83.

<sup>114</sup> Pollard, *Puget Sound Whales for Sale*, 85

<sup>115</sup> Pollard, *Puget Sound Whales for Sale*, 83.

<sup>116</sup> Pollard, *Puget Sound Whales for Sale*, 85.

who became tangled in the nets and drowned.<sup>117</sup> Griffin and his team tied rocks to their tails and sank the whales, ensuring their carcasses would not float and be visible to onlookers.<sup>118</sup>

Ultimately, seven juvenile whales were captured to be sent to marine aquariums. They were distributed worldwide, from Galveston, Texas to Japan. One of the calves, a young female shipped to Miami Seaquarium in Florida and named Lolita (also known as Tokitae), remains today as the last live-captured Southern Resident killer whale in captivity. Oak Harbor resident Pixie Maylor recalls watching a young female calf, likely Lolita, as she was carried away from her family: “There was a bunch of us who went down every day, and it’s the worst thing that I’ve ever seen in my life. It should never have happened. The whales cried. We watched them load them and specifically saw load a small one in the back of the truck. I think it was probably Lolita and she cried and cried and cried the whole way. It’s a sound you don’t forget, you just don’t. I’ll never forget it.”<sup>119</sup>

In September of 1970, the dead killer whale calves began to wash up on shore, anchors and rocks still attached to their tails.<sup>120</sup> In total, all four of the calves killed during the captures washed up on Whidbey Island’s beaches. The widely witnessed and reported on Penn Cove captures, along with the discovery of the four deceased calves, is credited with changing public opinion on the capture of killer whales in Washington. In 1971, the State of Washington began managing the capture of killer whales through a permit system.<sup>121</sup> Limits were set on the size of whales that were allowed to be captured, and a fee of \$1000 per whale was charged.<sup>122</sup> Griffin

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<sup>117</sup> Colby, *Orca*, 250.

<sup>118</sup> Colby, *Orca*, 254.

<sup>119</sup> Pollard, *Puget Sound Whales for Sale*, 86

<sup>120</sup> Colby, *Orca*, 254.

<sup>121</sup> Colby, *Orca*, 262.

<sup>122</sup> Colby, *Orca*, 262.

soon quit the capture business with his finances in ruin. He changed his name and moved to eastern Washington.<sup>123</sup>

In 1976, the last live-capture of killer whales in Washington State occurred, just off the shore of the Evergreen State College. At the college, a three-day “International Orca Symposium” was taking place, with one of the primary goals being the caesura of live-captures in Washington.<sup>124</sup> The conference attendees, which included researchers such as Ken Balcomb, marine biology students, and wildlife advocates, observed the capture taking place.<sup>125</sup> Coincidentally, the governor’s assistant Ralph Munro was sailing in the area and witnessed the violent scene.<sup>126</sup> The State of Washington later filed a lawsuit against SeaWorld, claiming the practices they used to capture the whales were inhumane, ordering for the whales to be released and for SeaWorld to relinquish its permit to capture killer whales.<sup>127</sup> The days of capturing the Southern Resident killer whales had passed.

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<sup>123</sup> Colby, *Orca*, 281.

<sup>124</sup> Colby, *Orca*, 328.

<sup>125</sup> Colby, *Orca*, 328.

<sup>126</sup> Colby, *Orca*, 322.

<sup>127</sup> Pollard, *Puget Sound Whales for Sale*, 97

## Luna's Story

In 1995, the Southern Residents' population reached a peak of 98 whales, a number that would remain the highest ever recorded.<sup>128</sup> This baby boom was considered to be a result of the population recovering from the impacts of the capture era, and it was expected that the amount of whales would continue to increase into the new millennium.<sup>129</sup> There was little reason to be alarmed until the early 2000s, when 20 whales died in within a span of five years, leading to a population drop from 98 to 78.<sup>130</sup> Particularly concerning were the seven whales who went missing between the fall of 2000 and spring of 2001.<sup>131</sup> Among those missing were several whales from L pod, including a young calf named Luna.<sup>132</sup>

Though Luna was only observed for about a year before going missing, his story was already unusual for a killer whale. Resident killer whales have very stable family structures, with each pod comprising multiple matriline of direct family members, typically mothers and their children.<sup>133</sup> Luna – then known only by his numerical name, L98 – was first seen on September 19<sup>th</sup>, 1999, swimming with Splash, a member of L pod.<sup>134</sup> The next time L98 was seen, in January 2000, he was swimming with Kiska, an older female from K pod.<sup>135</sup> This was unprecedented in previous observations of killer whale behavior. While killer whales are very social, young calves tend to stay close to their mother, and Splash was nowhere to be seen. Prior

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<sup>128</sup> "Southern Resident Orca Population," Center for Whale Research, <https://www.whaleresearch.com/orca-population>.

<sup>129</sup> Michael Parfit, Suzanne Chisholm, *The Lost Whale: The True Story of an Orca Named Luna*. (St. Martin's Press, 2013).

<sup>130</sup> Parfit, Chisholm, *The Lost Whale*, 18.

<sup>131</sup> Parfit, Chisholm, *The Lost Whale*, 18.

<sup>132</sup> Parfit, Chisholm, *The Lost Whale*, 18.

<sup>133</sup> "Southern Resident Orca Population," Center for Whale Research, <https://www.whaleresearch.com/orca-population>.

<sup>134</sup> Parfit, Chisholm, *The Lost Whale*, 14.

<sup>135</sup> Parfit, Chisholm, *The Lost Whale*, 16.

to this sighting, Kiska had been seen carrying a deceased calf, leading to an unfortunate hypothesis – “it could be that she [Kiska] lost her calf and was so devastated about that loss that she kidnapped L-98 [Luna].”<sup>136</sup>

A few weeks later, Luna was observed nursing with Splash, who was accompanied by four members of K pod, including Kiska.<sup>137</sup> Kiska, Splash, Luna, and several members of K pod traveled together for several days, eventually meeting up with other members of J, K, and L pods.<sup>138</sup> The whales exited the waters of the Salish Sea as they often do in winter, foraging along the outer Pacific coast, typically between 10 and 20 miles offshore.<sup>139</sup> It is rare that they are encountered or studied during this period of time. In early spring of 2001, when the whales returned to inland waters to forage for salmon returning to spawn, several Southern Residents were missing, including Luna.<sup>140</sup> There was little chance that he could have survived alone, given his young age.

Reports of an unaccompanied orca calf began to surface in Nootka Sound, British Columbia, located in far northwestern Vancouver Island.<sup>141</sup> The calf was first spotted in Muchalat Inlet, about 34 miles in the sound.<sup>142</sup> Luna’s arrival in Nootka Sound was very meaningful. Four days prior, Chief Ambrose Maquinna of the Mowachaht/Muchalaht First Nation had passed away.<sup>143</sup> Before he passed, he had stated that he would return as a killer whale.<sup>144</sup> On a sea otter flight survey in September, research biologists Graeme Ellis, John Ford, and Jane Watson were

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<sup>136</sup> Parfit, Chisholm, *The Lost Whale*, 16.

<sup>137</sup> Parfit, Chisholm, *The Lost Whale*, 20.

<sup>138</sup> Parfit, Chisholm, *The Lost Whale*, 18.

<sup>139</sup> “FAQ about the the Southern Resident Endangered orcas” The Whale Museum.

<https://whalemuseum.org/pages/frequently-asked-questions-about-the-southern-resident-endangered-orcas>

<sup>140</sup> Parfit, Chisholm, *The Lost Whale*, 20.

<sup>141</sup> John Ford and Graeme Ellis. “Observations of L98 in British Columbia.”

<sup>142</sup> John Ford and Graeme Ellis. “Observations of L98 in British Columbia.”

<sup>143</sup> “Mowachaht/Muchalaht meet with DFO.” Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>144</sup> “Mowachaht/Muchalaht meet with DFO.” Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

able to confirm that the whale was indeed a juvenile killer whale.<sup>145</sup> On November 12<sup>th</sup>, the researchers traveled to the area by boat to conduct observations and attempt to identify the whale. Analysis of the photos later proved that the whale was L-98, Luna, who had been assumed deceased.<sup>146</sup> Luna appeared to be healthy and in good condition: he was very active, and was observed catching and eating a salmon.<sup>147</sup> On December 3<sup>rd</sup>, a meeting with marine mammal specialists – including representatives from Fisheries and Oceans Canada, the Center for Whale Research, the Vancouver Aquarium, and the University of British Columbia – was held in Vancouver to develop a response strategy.<sup>148</sup> The panel agreed to monitor Luna biweekly in order to assess his health and activity levels.<sup>149</sup>

Even to this day, it is unknown as to why Luna was on his own or why he appeared in Muchalat Inlet. Some believed that he may have been a “sulky teenager,” or was “thrown out of the pod.”<sup>150</sup> The leading theory regarding Luna’s arrival in the inlet was that his family, L pod, had been feeding nearby, and Luna may have wandered off and been unable to communicate with the rest of the pod.<sup>151</sup> Others believed that he may have been traveling with a family member who then passed away, leaving him alone, comparable to a “human infant suddenly isolated in the woods.”<sup>152</sup> It is possible that Luna became stuck in an unfamiliar canal or waterway. While killer whales have a very sensitive understanding of their surroundings, there have been several cases where they find themselves in unfamiliar or tight spaces and have difficulty leaving. For instance, in 1994, several killer whales were stuck near Barnes Lake, Alaska and had to be

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<sup>145</sup> John Ford and Graeme Ellis. “Observations of L98 in British Columbia.”

<sup>146</sup> John Ford and Graeme Ellis. “Observations of L98 in British Columbia.”

<sup>147</sup> John Ford and Graeme Ellis. “Observations of L98 in British Columbia.”

<sup>148</sup> “DFO and partners lay out plan to protect killer whale.” CNN.

<sup>149</sup> “DFO and partners lay out plan to protect killer whale.” CNN.

<sup>150</sup> Robert McLure, “Two orcas like peas without pods: Scientists puzzle over the lone whales in Puget Sound, BC.” The Seattle Times, 2002.

<sup>151</sup> McLure, “Two orcas like peas without pods,” 2002.

<sup>152</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

driven out. In this case, some of the whales died of starvation.<sup>153</sup> In 1997, nineteen members of L pod appeared trapped in Dyes Inlet, near Seattle, for several weeks before eventually making their way out.<sup>154</sup>

The following year would pass with few updates to Luna's situation. He survived the winter in Nootka Sound due to an abnormally large run of pilchard.<sup>155</sup> The monitoring program showed that he was in good health, able to catch food on his own, and appeared to be active.<sup>156</sup> Perhaps out of a feeling of loneliness, Luna began to follow boats in Muchalat Inlet. Co-director of Victoria's Marine Mammal Monitoring Project Marc Pakenham worried that Luna would become too familiar with human company, reducing his chances for reintroduction to L pod.<sup>157</sup>

In August 2002, Pakenham, along with the Veins of Life Watershed Society and the Department of Fisheries and Oceans sent a patrol vessel to Gold River.<sup>158</sup> The purpose of the patrol was to approach vessels in the region and describe the implications interacting with Luna could hold for his future.<sup>159</sup> The boat was staffed by two college interns, Erin Hobbs and Michelle Kehler, and was known as the "M3 project," or the "Luna Stewardship Project."<sup>160</sup> Peter Dixon, director of the Veins of Life Watershed Society sympathized with the challenges of managing people's relationships with Luna: "Whales in distress tend to be supported by the public because they're sentient beings, and somehow we feel very interconnected with them"<sup>161</sup>

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<sup>153</sup> Paul Spong, "Is Luna headed for disaster?" The Victoria Times Colonist, 2003.

<sup>154</sup> Paul Spong, "Is Luna headed for disaster?" The Victoria Times Colonist, 2003.

<sup>155</sup> Michael Harris, "Multi-Organizational letter of support to translocate L98, or 'Luna'" 2002.

<sup>156</sup> John Ford and Graeme Ellis. "Observations of L98 in British Columbia."

<sup>157</sup> Jeff Bell, "Orca guards will keep humans at bay." Time Colonist, 2002.

<sup>158</sup> Jeff Bell, "Orca guards will keep humans at bay." Time Colonist, 2002.

<sup>159</sup> Jeff Bell, "Orca guards will keep humans at bay." Time Colonist, 2002.

<sup>160</sup> Jeff Bell, "Orca guards will keep humans at bay." Time Colonist, 2002.

<sup>161</sup> Jeff Bell, "Orca guards will keep humans at bay." Time Colonist, 2002.

In addition to following local boats, Luna began socializing with humans on the Gold River docks. People threw sticks that Luna would catch and return. One of his favorite activities was playing with hoses, and he frequently sprayed people or objects with them.<sup>162</sup> People touched and pet Luna, even reaching inside of his mouth to pet his tongue.<sup>163</sup> Luna pushed thirty-foot logs through Muchalat Inlet, carry twigs on his head, jump out of the water near boats, and maneuver boats with his rostrum.<sup>164</sup> There were additional reports involving people attempting to swim with Luna, or feed him food such as beer, loaves of bread, and donuts.<sup>165</sup> Tourism operators in the region ran whale watching tours that profited from Luna and his outgoing nature, promising “amazing pictures of Nootka Sound’s orphan resident orca.”<sup>166</sup> Other outfitters took the marketing a step further, advertising whale watching tours where one could pet Luna from the vessel.<sup>167</sup>



Figure 1: Luna is petted by passengers on a vessel. (Orca Conservancy – the Luna File)



Figure 2: Luna is pat on the rostrum. (Orca Conservancy – the Luna File)

The primary concern was Luna’s interactions with vessels. Killer whales are often thought of as being incredibly agile animals who are hyper-sensitive to their surroundings due to

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<sup>162</sup> Suzanne Chisholm, “Luna, a wild orca, plays with his human friend.” Youtube Video, 1:35, March 21<sup>st</sup>, 2016.

<sup>163</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>164</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>165</sup> Robert McLure, “Fate of displaced whale stirs debate.” 2003.

<sup>166</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>167</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

their perceptive echolocation. However, a 2020 study of necropsy findings of fifty stranded killer whales found that vessel strikes may be a significant cause of death.<sup>168</sup> In total, nine Southern Resident killer whale necropsy results were examined, and four of these whales died due to vessel strike trauma.<sup>169</sup> In some cases, marks on the whales' bodies were clear indicators of vessel trauma, such as a whale who had serrated cuts where their dorsal fin had been sliced off.<sup>170</sup> Necropsies of other whales showed internal bleeding, suggesting that the whale may have survived the initial impact of the boat strike, but later passed away due to internal injuries.<sup>171</sup>

Luna would often surface directly in front of boats to slow them down and interact with the passengers on board.<sup>172</sup> The M3 Project worked to stop this behavior by persuading the public to stay away from him. Luna did not seem to enjoy this approach. At one point, when the M3 zodiac approached a sailboat in an attempt to stop an interaction between the passengers and Luna, Luna “physically pushed the zodiac away, like a petulant child.”<sup>173</sup> After, he returned to the sailboat and spyhopped to view the passengers. The stewardship employees often had to rescue boaters from Luna when the “3000 pound whale with a puppy’s disposition” when he refused to leave boaters.<sup>174</sup> While there has not been a recorded case of a killer whale harming a human in the wild, whales’ large sizes can cause injury – in September 2022, five people were killed in

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<sup>168</sup> Raverty S, St. Leger J, Noren DP, Burek Huntington K, Rotstein DS, Gulland FMD, et al. (2020) Pathology findings and correlation with body condition index in stranded killer whales (*Orcinus orca*) in the northeastern Pacific and Hawaii from 2004 to 2013. PLoS ONE 15(12): e0242505. <https://doi.org/10.1371/journal.pone.0242505>

<sup>169</sup> Raverty S, St. Leger J, Noren DP, Burek Huntington K, Rotstein DS, Gulland FMD, et al. (2020) Pathology findings and correlation with body condition index in stranded killer whales (*Orcinus orca*) in the northeastern Pacific and Hawaii from 2004 to 2013.

<sup>170</sup> Raverty S, St. Leger J, Noren DP, Burek Huntington K, Rotstein DS, Gulland FMD, et al. (2020) Pathology findings and correlation with body condition index in stranded killer whales (*Orcinus orca*) in the northeastern Pacific and Hawaii from 2004 to 2013.

<sup>171</sup> Raverty S, St. Leger J, Noren DP, Burek Huntington K, Rotstein DS, Gulland FMD, et al. (2020) Pathology findings and correlation with body condition index in stranded killer whales (*Orcinus orca*) in the northeastern Pacific and Hawaii from 2004 to 2013.

<sup>172</sup> Leslie Knopp, “Another orphaned orca raises concerns.” KOMO 4 News, 2002.

<sup>173</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” Seattle Post, September 15<sup>th</sup>, 2002.

<sup>174</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

Kaikoura, New Zealand when a whale surfaced beneath the boat, knocking the passengers overboard.<sup>175</sup> In Nootka Sound, at least one kayaker had an experienced where Luna pushed their kayak up and out of the water.<sup>176</sup> In fall 2002, two kayakers were found deceased and early speculation pointed to Luna being a potential cause for their deaths.<sup>177</sup> While this was ultimately found to not be the case, Luna would easily be able to tip a kayak or small vessel. At this point, Luna already had several scars and marks from too-close brushes with propellers and boats.<sup>178</sup>

While the dangers to interactions between humans and Luna were well known, that did not make the situation any easier. Michelle Kehler, M3 Project crew member, described the difficulties of managing Luna for *The Seattle Post*: “It’s tough on us emotionally. It’s like we’re taking away his only friends.”<sup>179</sup> Ed Thornburn, Fisheries Officer based out of Nootka Sound, felt similarly. “I believe I can see a real loneliness in the way Luna looks at me,” he told *The Seattle Weekly*.<sup>180</sup>

The Luna Stewardship Project ended on September 15<sup>th</sup>, 2002 after funding for the project ran out.<sup>181</sup> While some aspects were successful – according to Kehler, the number of boats around Luna decreased from thirty to five to ten – the stewardship crew was largely unable to stop interactions with Luna.<sup>182</sup> This was due in some part to the fact that it is near impossible to constantly monitor wild animals; that the people in charge of monitoring Luna and policing the residents of Gold River were two young college students from outside the region; and that the

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<sup>175</sup> “Five dead in New Zealand after possible whale collision capsizes boat.” *The Guardian*, September 10<sup>th</sup>, 2022. <https://www.theguardian.com/world/2022/sep/10/deaths-after-possible-whale-collision-capsizes-boat-in-new-zealand>

<sup>176</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>177</sup> Robert McLure, “Canada to leave solo orca alone.” *Seattle Post*, May 31<sup>st</sup>, 2003.

<sup>178</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>179</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” *Seattle Post*, September 15<sup>th</sup>, 2002.

<sup>180</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>181</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” *Seattle Post*, September 15<sup>th</sup>, 2002.

<sup>182</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” *Seattle Post*, September 15<sup>th</sup>, 2002.

stewardship employees ended up forming strong bonds with Luna themselves. Kari Koski, education director at The Whale Museum who assisted with the M3 Project, described Luna as “charming,” stating that “he’s a seducer. It’s asking a lot to ask people to restrain themselves.”<sup>183</sup> Other M3 crew members claimed they had “telepathic communication” with Luna.<sup>184</sup> While the primary goal of the stewardship project was to ensure that Luna would not become habituated to humans, instead, it was often the case that the stewardship project employees interacted with him in the same manner that the project was intended to prohibit. The majority of [viral online videos](#) showcasing Luna’s behavior, including one where he is playing with a dog, playing tug-of-war with a rope, and being petted by humans were taken and uploaded by the stewardship employees themselves.<sup>185</sup>

Concern for Luna’s safety began to rise as summer transitioned to fall. While salmon was plentiful in Muchalat Inlet during the summer, food would be scarce during winter and it was possible that he would starve to death.<sup>186</sup> While Luna managed to survive the previous winter due to an abnormally large run of pilchard, fisheries officials warned that such a robust run would be unlikely to occur two years in a row.<sup>187</sup> In addition, weather on the west coast of Vancouver Island is notoriously treacherous in winter. In October 2002, Fisheries and Oceans Canada convened a panel of marine mammal biologists and experts to discuss Luna’s situation and potential intervention in summer 2003.<sup>188</sup> Any plans for relocating him would be delayed until the spring, at earliest, due to potential weather.<sup>189</sup>

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<sup>183</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>184</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>185</sup> Suzanne Chisholm, “Luna, a wild orca, plays with his human friend.” Youtube Video, 1:35, March 21<sup>st</sup>, 2016

<sup>186</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>187</sup> Eric Scigliano, “Overjoyed orca: Humans tame another stray killer whale,” 2002.

<sup>188</sup> Robert McLure, “Fate of displaced whale stirs debate.” 2003.

<sup>189</sup> Robert McLure, “Fate of displaced whale stirs debate.” 2003.

The Luna Stewardship Project/M3 Project would not return again. Fisheries and Oceans Canada had cut their portion of the funding, leaving the project without the necessary funds to continue the work. Fisheries Officer Ed Thornburn had recommended the program be cut to Marilyn Joyce. The on-the-water effort was decidedly unsuccessful, as the M3 team had no authoritative power and were simply private citizens who would send reports to Fisheries and Oceans.<sup>190</sup> From Thornburn's observations, any attempt to draw Luna away from the M3 vessel was unsuccessful and simply increased the amount of human contact Luna experienced.<sup>191</sup> In exchange for cutting their portion of the funding, Fisheries and Oceans agreed to resume regular monitoring of Luna and his health. As an official government body, they had more authority than the M3 project. Official signs noting potential fines and jail time for interacting with Luna were posted around the docks. In February 2003, a Gold River woman was charged for petting Luna and faced a maximum fine of \$100,000.<sup>192</sup> Ultimately, she was only fined \$100.<sup>193</sup> One other person was also arrested for interacting with Luna.<sup>194</sup> Luna's interactions with people appeared to intensify over the summer of 2003. Marc Pakenham, director of the former M3 Project, reported that hundreds of people, primarily tourists, would regularly gather on the Gold River docks and attempt to pet him. Reportedly, so many people were standing on the docks that they were in danger of collapsing.<sup>195</sup> In July, he kept four boaters stranded in the ocean overnight by preventing them from getting close to shore.<sup>196</sup> Soon after, one of the assigned Fisheries and Oceans officers was accused of beating Luna with a wooden board when the whale would not

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<sup>190</sup> David Wiwchar, "Tsux'it Stewards work for less," Ha-Shilth-Sa Newspaper, November 22<sup>nd</sup>, 2005.

<sup>191</sup> David Wiwchar, "Tsux'it Stewards work for less," Ha-Shilth-Sa Newspaper, November 22<sup>nd</sup>, 2005.

<sup>192</sup> "Woman charged for patting whale," CBC News British Columbia, February 12<sup>th</sup>, 2003.

<sup>193</sup> *The Whale*, directed by Suzanne Chisholm, 2011.

<sup>194</sup> "Woman charged for patting whale," CBC News British Columbia, February 12<sup>th</sup>, 2003.

<sup>195</sup> Stephen Michaels, "It's hardly black and white," Los Angeles Times, December 23<sup>rd</sup>, 2005.

<sup>196</sup> Robert McLure, "Future of sad orca presents dilemma." Seattle Post, August 7<sup>th</sup>, 2003.

allow him to dock in Gold River.<sup>197</sup> The officer described Luna as being similar to a “troublesome bear,” saying that he “should be shot.”<sup>198</sup>

In late August, 2003, Luna was struck by the propeller of a small fishing boat. He received a gash about six inches long and two inches deep on his head.<sup>199</sup> The injury was not life-threatening, but confirmed many people’s fear that although Luna was used to boats, he was not immune to a potential vessel strike. This injury reignited concern for Luna and desire to move and reintroduce him to L pod, a potential solution that had previously been indefinitely suspended. The injury served as a wake-up call for many orca biologists and activists, who publicly demanded a reintroduction effort. “The longer we wait, the more inevitable the conclusion to this drama – in a very bad way,” Marc Pakenham stated. “There is no future for Luna in Nootka Sound.”<sup>200</sup>

The Department of Fisheries and Oceans hoped that L pod would swim past Nootka Sound and hear Luna’s calls, and he would then be able to leave on his own free will – a “natural” reintroduction.<sup>201</sup> Many American conservation groups and research biologists believed that a direct, hands-on reintroduction effort should take place, for Luna’s benefit and for the benefit of the population as a whole. At this point, there were only four breeding-age males in the Southern Resident population.<sup>202</sup> Luna was considered to have immense value for this reason – he was stated to be representative of the future for the entire population.<sup>203</sup>

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<sup>197</sup> Tracy Vedder, “Canadian official accused of beating an orca whale.” KOMO 4 News, July 15<sup>th</sup>, 2003.

<sup>198</sup> Tracy Vedder, “Canadian official accused of beating an orca whale.” KOMO 4 News, July 15<sup>th</sup>, 2003.

<sup>199</sup> “Reported injury raises concern about Luna.” Associated Press Vancouver, August 28<sup>th</sup>, 2003.

<sup>200</sup> “Reported injury raises concern about Luna.” Associated Press Vancouver, August 28<sup>th</sup>, 2003.

<sup>201</sup> “It’s time to help Luna go home,” The San Juan Islander, April 7<sup>th</sup>, 2004.

<sup>202</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” Seattle Post, September 15<sup>th</sup>, 2002.

<sup>203</sup> Leigh Calvez, “Now is the time to return Luna to his wild ways.” Seattle Post, September 15<sup>th</sup>, 2002.

Marilyn Joyce, marine mammal resource coordinator for Fisheries and Oceans Canada had reservations about moving Luna due to his healthy, robust appearance, dismissing the concern of other biologists and advocates as people becoming panicked over Luna.<sup>204</sup> Some biologists had concerns about Fisheries and Oceans' plan for a natural reintroduction, which hinged on L pod hearing Luna's calls in Nootka Sound and retrieving him. "He's very unlikely to be heard...He also doesn't vocalize much – with nobody else around, why should he? So if they're just passing and he's not within acoustic range, the chances of them hearing each other are pretty slim," claimed Paul Spong, director of Orcalab, a killer whale research organization based near Vancouver Island.<sup>205</sup> At one point, Ken Balcomb, director of the Center for Whale Research, received a private donation that would have fully paid for the relocation effort.<sup>206</sup> However, Fisheries and Oceans Canada denied use of the funds and denied the reintroduction plan.<sup>207</sup> Later on, Joyce would use the potential cost of a reintroduction effort as a prohibiting barrier in reintroducing Luna.<sup>208</sup>

After Luna's first summer in Nootka Sound – summer of 2002 – came and went, concern again grew for his survival during the winter, which is historically the time when most killer whales die. Marilyn Joyce, marine mammal coordinator for Fisheries and Oceans expressed concern that if a potential reintroduction effort failed, Luna would be stuck in a more dangerous location.<sup>209</sup> In addition, there were anxieties about why Luna had appeared in Muchalat Inlet in the first place. "One of the outstanding questions is, 'is there a reason he is on his own the way he is?' Did he lose his way or was he kicked out (of his pod)?...When you decide to intervene,

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<sup>204</sup> Peggy Anderson, "Officials mull orphaned orca problem." Associated Press, September 29<sup>th</sup>, 2002.

<sup>205</sup> Peggy Anderson, "Officials mull orphaned orca problem." Associated Press, September 29<sup>th</sup>, 2002.

<sup>206</sup> *The Whale*, directed by Suzanne Chisholm, 2011.

<sup>207</sup> *The Whale*, directed by Suzanne Chisholm, 2011.

<sup>208</sup> Eric Scigliano, "Overjoyed orca: Humans tame another stray killer whale," 2002.

<sup>209</sup> "Scientific panel to evaluate options for lone orca." Fisheries and Oceans Canada news release, October 10<sup>th</sup>, 2002.

you want to make sure you understand why he is in the situation he is in,” Joyce stated.<sup>210</sup>

Ultimately, Joyce and her team at the Department of Fisheries and Oceans decided that any plan to reintroduce Luna to L pod would be indefinitely halted.<sup>211</sup>

Many were concerned with Luna’s increasing desire to interact with boats and humans, which only continued to grow as time passed. Some believed that if Luna grew too habituated to humans, he would be sent to a marine park or aquarium. This concern was amplified when research biologists at the Vancouver Aquarium Marine Science Center stated that Luna was “probably a lost cause” because he had been separated from his pod for at least three and a half years.<sup>212</sup> Fisheries and Oceans Canada publicly stated that if Luna’s behavior deteriorated any further, an aquarium might be the only option for him.<sup>213</sup> During summer 2003, Luna created more controversy due to his increased interactions with people in Gold River, as well as the increasing disturbances caused by numerous tourists attempting to view him. While Fisheries and Oceans Canada publicly announced that Luna was minimizing his interactions with humans, they simultaneously arranged for permanent, twenty-four hour guards on the Gold River docks, with orders to arrest and charge anybody who attempt to interact with Luna.<sup>214</sup>

After the contentious summer, Fisheries and Oceans Canada held a formal meeting to re-open the possibility of relocating Luna.<sup>215</sup> There was little consensus on where Luna would be moved to. The rough waters of the outer coast of Vancouver Island would make transport more difficult. While Luna’s mother was still alive, she had recently had a new calf, which

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<sup>210</sup> Christopher Dunagan, “Researchers ponder what to do about Luna.” The Bremerton Sun, February 19<sup>th</sup>, 2003.

<sup>211</sup> Robert McLure, “Canada to leave solo orca alone.” Seattle Post, May 31<sup>st</sup>, 2003.

<sup>212</sup> Robert McLure, “Canada to leave solo orca alone.” Seattle Post, May 31<sup>st</sup>, 2003.

<sup>213</sup> “Luna should return home.” Seattle Post, August 10<sup>th</sup>, 2003.

<sup>214</sup> John Yeager, “Luna controversy: compare him to Springer,” Q13 Fox News, July 30<sup>th</sup>, 2003.

<sup>215</sup> Eric Sorensen, “Lone orca’s injury in BC revives calls to return it to pod.” Seattle Times, August 29<sup>th</sup>, 2003.

complicated matters further.<sup>216</sup> It was ultimately decided that an attempt would be made to reunite him with L pod. The initial phase of the reintroduction effort would involve getting Luna into a net pen to conduct medical tests and ensure that he does not have any diseases that could be transmitted to the rest of L pod and the Southern Residents.<sup>217</sup> After that, Luna would be moved, possibly by a truck, to the San Juan Islands.<sup>218</sup> He would then again be placed in a net pen to await the arrival of L pod.<sup>219</sup> First, however, funds would need to be privately raised.<sup>220</sup> If this did not occur within five days, Luna would be sent to a marine park.<sup>221</sup> The Department of Fisheries and Oceans would only provide a plan to move Luna as long as they could find a US-based organization that could fully fund and take responsibility for the effort.<sup>222</sup> No official plan was announced, leaving many organizations struggling to fundraise without a clear idea of the total amount needed.<sup>223</sup> During this time, Fisheries and Oceans Canada turned to the media, stating that if funds were unable to be raised, Luna would be sent to a marine park or euthanized.<sup>224</sup> On the fifth day, the Seattle Aquarium, with support from Senator Maria Cantwell, was able to provide \$100,000, or more if necessary, for the reintroduction of Luna.<sup>225</sup> Fisheries and Oceans Canada agreed to match the contribution, but quickly announced that no reintroduction effort or planning would begin until Spring 2004.<sup>226</sup> Luna would be left to survive another winter in Nootka Sound.

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<sup>216</sup> “Panel recommends reuniting Luna with family.” Associated Press Seattle, September 18<sup>th</sup>, 2003.

<sup>217</sup> “Panel recommends reuniting Luna with family.” Associated Press Seattle, September 18<sup>th</sup>, 2003.

<sup>218</sup> “Panel recommends reuniting Luna with family.” Associated Press Seattle, September 18<sup>th</sup>, 2003.

<sup>219</sup> “Panel recommends reuniting Luna with family.” Associated Press Seattle, September 18<sup>th</sup>, 2003.

<sup>220</sup> “Canada wants whale to be moved to Washington.” Associated Press Seattle, October 3<sup>rd</sup>, 2003.

<sup>221</sup> “OC Timeline: The Deadline.” Orca Conservancy – The Luna Files.

<sup>222</sup> “OC Timeline: The Deadline.” Orca Conservancy – The Luna Files.

<sup>223</sup> “OC Timeline: The Deadline.” Orca Conservancy – The Luna Files.

<sup>224</sup> “OC Timeline: The Deadline.” Orca Conservancy – The Luna Files.

<sup>225</sup> Nguyen Huy Vu, “\$150,000 more needed in effort to aid orca.” The Seattle Times, May 12<sup>th</sup>, 2004.

<sup>226</sup> “OC Timeline: The Deadline.” Orca Conservancy – The Luna Files.

In early April 2004, the plans for Luna's reintroduction were announced. He would be moved into a container, then shipped via a truck to Pedder Bay, near Victoria, British Columbia.<sup>227</sup> A month later, the Mowachaht/Muchalaht met with Marilyn Joyce and Fisheries and Oceans Canada to discuss their disapproval of the capture of Luna.<sup>228</sup> Joyce responded publicly with, "Over the past couple of years we have had discussions on Tsuux-iit (Luna) and the plans to move him back with his family and we have been pleased with the work that has been done between our two groups...In your letter you have expressed that you are opposed to the plans and I very much respect that. As people we sometimes overstep our boundary in regards to wildlife."<sup>229</sup> During this meeting, Mike Maquinna, son of Chief Ambrose expressed his strong disapproval of the current plan, specifically the manner in which Luna would be moved, which would involve shipping him in a metal container on a truck for a five hour drive and using ropes around his tail to secure him during the transport.<sup>230</sup> In addition, Fisheries and Oceans Canada had plans to collaborate with a local hatchery to coordinate use of their net pens to hold Luna, something that was viewed as overtly disrespectful.<sup>231</sup> Chief Maquinna explained that when a Mowachaht/Muchalaht Chief dies, they choose to come back as either a killer whale or a wolf.<sup>232</sup> Chief Ambrose, Mike Maquinna's father, chose to come back as a killer whale shortly before Luna appeared in Gold River. As he described, Fisheries and Oceans was "essentially kidnapping a Chief."<sup>233</sup> Only after they let their tears go at a Memorial Potlatch would Luna be

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<sup>227</sup> Judith Lavoie, "Hunt on for Luna's elusive L pod as reunion hopes build." Victoria Times Colonist, May 12<sup>th</sup>, 2004.

<sup>228</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>229</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>230</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>231</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>232</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>233</sup> "Mowachaht/Muchalaht meet with DFO." Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

able to leave.<sup>234</sup> After a heated discussion, Chief Maquinna asked Joyce: “So you are going to do this regardless of what we say, aren’t you?”<sup>235</sup> Hesitantly, Joyce responded. “Yes.”<sup>236</sup>

As the reintroduction effort got closer, former Vancouver Aquarium director John Nightingale, who was involved with the plan to move Luna and had been an advocate for capturing him, reached out to the Gold River EMT department to let them know of possible “tear gas injuries” that may arise during the capture process.<sup>237</sup> In addition, he put in a request to close airspace above Nootka Sound and hired personal photographers to share images with the media.<sup>238</sup> He removed Paul Spong, director of Orcalab and highly influential research biologist, from the reintroduction team.<sup>239</sup> As described by Orca Conservancy, the situation seemed to be a “captive-display wonk trying to rush his way into Native Canadian Ancestral territory and keep everyone out.”<sup>240</sup>

Because of Luna’s size, he would need to be persuaded to enter the net pen. Ed Thornburn, Fisheries Officer, conducted multiple test runs to see if Luna would follow him in his small vessel.<sup>241</sup> While Luna seemed interested, there was no certainty that he would follow Thornburn into the pen. If he did not, the alternative would have been using a looped rope around Luna’s tail to essentially drag him into the pen.<sup>242</sup> However, this method had a higher risk of injury. If Luna was not able to be safely persuaded to enter the pen, the reintroduction effort would need to be called off.<sup>243</sup> While there were some anxieties about the capture, the most

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<sup>234</sup> “Mowachaht/Muchalaht meet with DFO.” Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>235</sup> “Mowachaht/Muchalaht meet with DFO.” Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>236</sup> “Mowachaht/Muchalaht meet with DFO.” Ha-Shilth-Sa Newspaper, Nuu-chah-nulth Tribal Council.

<sup>237</sup> “OC Timeline.” Orca Conservancy – The Luna Files.

<sup>238</sup> “OC Timeline.” Orca Conservancy – The Luna Files.

<sup>239</sup> “OC Timeline.” Orca Conservancy – The Luna Files.

<sup>240</sup> “OC Timeline.” Orca Conservancy – The Luna Files.

<sup>241</sup> “Luna the orca to be captured.” King 5 News, June 10<sup>th</sup>, 2004.

<sup>242</sup> “Luna the orca to be captured.” King 5 News, June 10<sup>th</sup>, 2004.

<sup>243</sup> “Luna the orca to be captured.” King 5 News, June 10<sup>th</sup>, 2004.

difficult aspect of the plan would be reintroducing Luna to L pod.<sup>244</sup> He would need to lose his obsessive nature towards boats and humans.

The reintroduction effort was set to officially begin on June 16<sup>th</sup>, 2004. During this effort, seventeen members of the Mowachaht/Muchalat First Nation used traditional canoes to lead Luna away from the net pens in an attempt to redirect the Department of Fisheries and Oceans' capture effort.<sup>245</sup> By the afternoon, Luna had followed them twelve miles away from the pen.<sup>246</sup> Chief Mike Maquinna, leader of the First Nation, planned to rotate out paddlers to keep Luna near the mouth of Nootka Sound, near a traditional village and far from the net pen.<sup>247</sup> Chief Maquinna described the situation:

“All we are doing is the same thing we’ve been doing here for thousands of years: paddling our canoes and singing songs. We have a very special connection with Tsux’iit and we’re paddling in support of him. We’re trying to stay out of harm’s way, but DFO seems committed to turn this into a battle, even though we’ve made it clear we don’t want that. They have bulletproof vests, guns, and high-powered vessels. We’re just paddlers in traditional canoes.”<sup>248</sup>

For about ten days, the Department of Fisheries and Oceans fought the Mowachaht/Muchalat First Nation’s sovereignty. Luna seemed to enjoy the company, often swimming back and forth between the multiple vessels and playing with their passengers.<sup>249</sup> Little progress was made in moving Luna towards the pen.<sup>250</sup> While many accused the First Nation of cruelly preventing Luna’s reintroduction, the fight for tribal sovereignty was paramount.

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<sup>244</sup> “Luna the orca to be captured.” King 5 News, June 10<sup>th</sup>, 2004.

<sup>245</sup> “Paddlers led Luna out to sea to thwart capture.” The Associated Press, June 16<sup>th</sup>, 2004.

<sup>246</sup> “Paddlers led Luna out to sea to thwart capture.” The Associated Press, June 16<sup>th</sup>, 2004.

<sup>247</sup> “Paddlers led Luna out to sea to thwart capture.” The Associated Press, June 16<sup>th</sup>, 2004.

<sup>248</sup> Kim Peterson, “Tsux’iit: Understanding Indigenous Spirituality.” The Dominion, May 21<sup>st</sup>, 2005.

<sup>249</sup> *The Whale*, directed by Suzanne Chisholm, 2011.

<sup>250</sup> *The Whale*, directed by Suzanne Chisholm, 2011.

On June 25<sup>th</sup>, the plan to capture and reintroduce Luna was indefinitely suspended.<sup>251</sup> In celebration, the Mowachaht/Muchalat First Nation paddled their canoes to the estuary of Gold River, many crying tears of joy.<sup>252</sup> Chief Mike Maquinna told *Victoria News*, “We have helped him stay free. We are not going to let anyone buy him, prod him, tag him, poke him, or do anything unnatural.”<sup>253</sup> The Nation sought an interim agreement with the Department of Fisheries and Oceans on marine mammal policy that would prevent other First Nations from having similar issues, as well as ensure that Luna would be returned to Nootka Sound if any future reintroduction efforts to plans were unsuccessful.<sup>254</sup> The Mowachaht/Muchalat people waited patiently for the next steps. They were eager to finally be involved – their desire from the very beginning of Luna’s appearance in Nootka Sound – and they had future plans for the whale. They wished to lead Luna down to the Salish Sea in canoes, or attempt to lead him out of Nootka Sound in late fall or early winter when L pod typically travels the area.<sup>255</sup>

In response, a joint stewardship program was promised by the Department of Fisheries and Oceans in September, 2004.<sup>256</sup> This stewardship program would allow the Mowachaht/Muchalat people to monitor Luna in Nootka Sound and keep him safe from harm. It would consist of daily, sixteen-hour patrols to tell boaters not to approach Luna, as well as additional outreach such as handing out information and patrolling docks.<sup>257</sup> The estimated budget was \$177,000 per season.<sup>258</sup> The budget was submitted to the Department of Fisheries and

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<sup>251</sup> Judith Lavoie, “Bid to pen Luna ends.” *Victoria Times – Colonist*, June 25<sup>th</sup>, 2004.

<sup>252</sup> Judith Lavoie, “Bid to pen Luna ends.” *Victoria Times – Colonist*, June 25<sup>th</sup>, 2004.

<sup>253</sup> Judith Lavoie, “Bid to pen Luna ends.” *Victoria Times – Colonist*, June 25<sup>th</sup>, 2004.

<sup>254</sup> Judith Lavoie, “Bid to pen Luna ends.” *Victoria Times – Colonist*, June 25<sup>th</sup>, 2004.

<sup>255</sup> Judith Lavoie, “Bid to pen Luna ends.” *Victoria Times – Colonist*, June 25<sup>th</sup>, 2004.

<sup>256</sup> Kim Peterson, “Tsux’iit: Understanding Indigenous Spirituality.” *The Dominion*, May 21<sup>st</sup>, 2005.

<sup>257</sup> Kim Peterson, “Tsux’iit: Understanding Indigenous Spirituality.” *The Dominion*, May 21<sup>st</sup>, 2005.

<sup>258</sup> Judith Lavoie, “Luna ‘trapped’ by waves of noise.” *Victoria Times – Colonist*, May 22<sup>nd</sup>, 2005.

Oceans, who responded by providing the Nation about \$50,000, egregiously less than the \$300,000 they had provided the M3/Luna Stewardship Project.<sup>259</sup>

The following summer, Luna continued his antics. He tore the rudder off of a coast guard vessel, and routinely lifted and maneuvered other small vessels.<sup>260</sup> Fisheries officers were often dispatched to distract Luna, allowing the boaters to escape the situation.<sup>261</sup> Vessels and seaplanes were frequently damaged by his outgoing behavior. Luna had long lost his charm and had instead become a local annoyance. Fishermen frequently threatened to shoot him or feed him fish laced with cyanide.<sup>262</sup> The Department of Fisheries and Oceans responded to these threats by increasing on-the-water patrols and police presence on the Gold River docks.<sup>263</sup> Because the Southern Resident killer whales had recently been listed on the Endangered Species List, penalties for injuring Luna could be as high as \$250,000 and lead to up to five years in prison.<sup>264</sup> In October of 2005, the permit for the monitoring program had expired. Very little monitoring took place. Luna was left to his own devices.

On March 10<sup>th</sup>, 2006, Luna was struck and killed by a tugboat.<sup>265</sup> The tugboat had arrived in Nootka Sound seeking refuge during a spell of bad weather.<sup>266</sup> Luna was familiar with the tugboat and would often play in the boat's wake when it was nearby. Upon approaching the vessel, Luna was sucked into the propellers and killed instantly.<sup>267</sup> Thousands of tourists visited

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<sup>259</sup> David Wiwchar, "Tsux'it Stewards work for less," Ha-Shilth-Sa Newspaper, November 22<sup>nd</sup>, 2005

<sup>260</sup> Judith Lavoie, "Luna 'trapped' by waves of noise." Victoria Times – Colonist, May 22<sup>nd</sup>, 2005.

<sup>261</sup> Judith Lavoie, "Luna 'trapped' by waves of noise." Victoria Times – Colonist, May 22<sup>nd</sup>, 2005.

<sup>262</sup> Judith Lavoie, "A human pod – tide turns against Luna." Victoria Times – Colonist, July 30<sup>th</sup>, 2005.

<sup>263</sup> Judith Lavoie, "A human pod – tide turns against Luna." Victoria Times – Colonist, July 30<sup>th</sup>, 2005.

<sup>264</sup> Judith Lavoie, "A human pod – tide turns against Luna." Victoria Times – Colonist, July 30<sup>th</sup>, 2005.

<sup>265</sup> Paul Spong, "Orcalab: Luna dies." March 20<sup>th</sup>, 2006.

<sup>266</sup> Paul Spong, "Orcalab: Luna dies." March 20<sup>th</sup>, 2006.

<sup>267</sup> Paul Spong, "Orcalab: Luna dies." March 20<sup>th</sup>, 2006.

Gold River to say goodbye to the young whale.<sup>268</sup> His death brought up old arguments about the mishandling of the situation, tribal sovereignty, and wildlife management.

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<sup>268</sup> Paul Spong, "Orcalab: Luna dies." March 20<sup>th</sup>, 2006.

## Conclusion

Luna's story exemplifies many contemporary issues that have played out time and time again in killer whale conservation: How far should humans go to save a population of animals? What is our role in caring for the natural world? What roles do Science, tribal sovereignty, and human-animal relationships play in conservation? Luna's influence in answering these questions can be felt in real-time. When researching his story, I am reminded of another young killer whale, about the same age, who I was able to meet.

Her name was Scarlet. A young calf, about four years old, and a member of J pod. Scarlet was well-loved among the killer whale community for her outgoing and friendly nature. She was exceptionally playful, frequently breaching for hours on end. Her body was covered in rake marks, tooth marks from the other whales, which were hypothesized to be the result of other killer whales pulling her out of her mother during a troublesome birth.<sup>269</sup>

In September of 2017, Scarlet was documented as abnormally skinny. By mid-2018, her condition had worsened and she was diagnosed with "peanut-head," a condition where a whale's blubber stores are so depleted from malnourishment that their head forms a peanut-like shape.<sup>270</sup> In many cases, the condition is a death sentence. Scarlet's diagnosis came on the heels of another distressing story: Tahlequah, another member of J pod, had given birth to a calf who had only lived for thirty minutes.<sup>271</sup> Tahlequah proceeded to carry the calf on her rostrum for seventeen

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<sup>269</sup> Colleen Weiler, "Young Southern Resident orca Scarlet (J50) missing, presumed dead," WDC Blogs, September 14<sup>th</sup>, 2018. <https://us.whales.org/2018/09/14/young-southern-resident-orca-scarlet-j50-missing-presumed-dead/>

<sup>270</sup> "Southern Resident killer whale recovery: J50 and J35 response." NOAA Fisheries

<sup>271</sup> "Southern Resident killer whale recovery: J50 and J35 response." NOAA Fisheries

days in an act of mourning.<sup>272</sup> Scarlet and Tahlequah came to stand as symbols for Southern Resident conservation.

In August 2018, NOAA Fisheries attempted to directly intervene to prevent Scarlet's death. Because she was such a young female, she, like Luna, had come to symbolize the future for the Southern Resident killer whales. Veterinarians and research biologists used a petri dish attached to a pole to collect breath samples, which was then tested for common diseases and ailments.<sup>273</sup> When these tests returned negative, a general antibiotic was administered via a dart gun in hopes that it would improve her condition.<sup>274</sup> In addition, the Lummi Nation provided a portion of their wild-caught Chinook salmon to attempt to feed Scarlet.<sup>275</sup> The fish were dropped near her using a long tube, but she did not appear to notice.<sup>276</sup>

In September 2018, I was on an early-morning boat trip searching for killer whales. We had an unsubstantiated report of killer whales to the north, near Galiano Island, British Columbia – the upper reaches of our range and far from home, San Juan Island. We breached the exit of Active Pass, a tight, narrow channel separating the Southern and Northern Gulf Islands. We were immediately surrounded by J pod. Though I had been working with killer whales for almost a year at that point, the Southern Residents still felt like strangers. Nowadays, they barely spend time in the inland Salish Sea, preferring instead to hunt Chinook on the outer coast. I had instead grown accustomed to watching mammal-hunting transients: whales who lived in smaller, quieter groups and patrolled the rocky shorelines for seals and porpoise. Seeing the Southern Residents was exciting. They were far more gregarious than transient whales, and spending time with them

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<sup>272</sup> “Southern Resident killer whale recovery: J50 and J35 response.” NOAA Fisheries.

<sup>273</sup> “Southern Resident killer whale recovery: J50 and J35 response.” NOAA Fisheries

<sup>274</sup> “Southern Resident killer whale recovery: J50 and J35 response.” NOAA Fisheries

<sup>275</sup> “Southern Resident killer whale recovery: J50 and J35 response.” NOAA Fisheries

<sup>276</sup> “Southern Resident killer whale recovery: J50 and J35 response.” NOAA Fisheries

connected me to the islands and to my colleagues, many of whom had been watching Southern Resident killer whales for decades.

Observing Southern Resident killer whales is very different than transients. Transients tend to stick close together, often ducking into small bays and traveling close to shore in search of a marine mammal meal. Southern Residents, on the other hand, often spread out and travel with their matriline. On that morning, we had encountered all of J pod – about twenty-five whales – and they had been spread out by about a mile. In our observations, we typically spent about fifteen minutes with each small group, then quickly head to the next.

We soon noticed that one whale was missing. Scarlet, the young calf who had become the center of a new management and conservation controversy was not with J pod that morning. The near-inevitable outcome that we had been waiting for had finally happened. Scarlet had dominated news headlines and been the subject of countless meetings between NOAA and the whale community for what felt like ages. Being the crew to call and report her missing was a surreal feeling, and something that I imagine those close to Luna felt as well. While losing Scarlet was immeasurably sad, it is hard not to feel a little relieved that the media frenzy was over and that Scarlet may have been able to find peace.

A year later, I would have a similar feeling, this time standing in the Center for Whale Research's Orca Survey Center with a close friend and colleague. It was also late summer, many of the former island tourists far from sight on the mainland. The Southern Residents had been in the Salish Sea for several days. 2019 had been an unprecedented low in terms of Southern Resident sightings: it was the first year on record that there had been no sight of them in June. Historically, visitors in early summer were almost guaranteed to see them. This year, no such

luck. Our mundane conversations had been interrupted by one of the Center's research scientists rushing into the building. Three Southern Residents, one from each pod, were missing and presumed dead. Princess Angeline, Scoter, and Nyssa.

Wildlife biology lends itself to an abstraction of the actual “wildlife,” who are often reduced to numbers on a page. However, in studying and spending time with the Southern Residents, I have found that there also exists a real pull in the opposite direction. For instance, Monika W. Shields, director of the Orca Behavior Institute, frequently writes of her time spent with the whales to honor them through storytelling.<sup>277</sup> The Center for Whale Research hosts “whale story nights,” where research scientists recount their love for the killer whales they study.<sup>278</sup> Spending time with the whales leads to experiencing them as real, three-dimensional individuals with personalities and stories to tell. Certainly this thesis and exploration into multispecies ethnography is another method of realizing this.

My experiences with the Southern Resident, Alaska Resident, and Transient killer whales have served as the primary inspiration behind this thesis, and certainly the primary inspiration behind my career goals. I will certainly continue writing about them and their stories in the future. Our modern fascination with killer whales holds important meaning for our relationships with the natural world and the beings that live within it.

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<sup>277</sup> Monika W. Shields, “Day of the Dead 2019.” Orca Behavior Institute. <https://orcabehaviorinstitute.org/2021/10/28/day-of-the-dead-2019/>

<sup>278</sup> “Whale stories with Astrid.” Center for Whale Research.

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