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Dying to Entertain Us or Living to Educate Us? A Comprehensive Investigation of Captive Killer Whales, Their Trainers, and How the Law Must Evolve to Meet Their Needs

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Dying to Entertain Us or Living to Educate Us? A Comprehensive Investigation of Captive Killer Whales, Their Trainers, and How the Law Must Evolve to Meet Their Needs

By Megan J. Rechberg*

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I. INTRODUCTION: BUT IT'S A *KILLER* WHALE

The scent of popcorn, brine, and fish wafted on a cool February breeze while children's laughter, applause, and carnival music filled the air. It was a day like any other at SeaWorld of Orlando.[1] Whale lovers and Shamu groupies looked on as veteran trainer, forty-year-old Dawn Brancheau, interacted with the largest leviathan in the park: a killer whale named Tilikum.[2] The guests

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Megan sends special thank yous to: Dr. Naomi Rose of the Humane Society International; Ken Balcomb and the Center for Whale Research Staff; Howard Garrett of The Orca Network; John Kielty of The Orca Project; and Tim Zimmerman of Outdoor Magazine. Megan stood on the shoulders of giants when writing her article, relying on decades of research and time by respected whale researchers, advocates, and journalists. Their hard work and willingness to answer questions helped establish the backbone for this article.

Finally, Megan would like to acknowledge the killer whales and trainers who have died for the public's "education." While this article is not intended as an attack on domestic marine parks, it *is* intended to be a catalyst for dialog regarding the care of beautiful, intelligent creatures who cannot speak on their own behalf. It is time for the laws to evolve to better protect the whales and their trainers. It is time we all start listening to their silent pleas before it is too late.

"Why should man expect his prayer for mercy to be heard by What is above him when he shows no mercy to what is under him?" ~ Pierre Troubetzkoy

[1] The following is this author's portrayal of the February 24, 2010 attack on SeaWorld Trainer Dawn Brancheau during the afternoon *Dine with Shamu* Show. The story is based upon reports of eyewitness accounts and a video taken by an observer minutes prior to the attack.

[2] SeaWorld of Orlando's killer whale Tilikum is the largest captive animal in the world. *See* Stefan Jacobs, *Orcas in Captivity: A Look at Killer Whales in Aquariums and Parks*, ORCA HOMEPAGE, http://www.orcahome.de/orcastat.htm (last visited Nov. 4, 2011). He weighs roughly six tons and is approximately 22.5 feet long. *Id.* Tilly was captured from Icelandic waters in November of 1983 at the

"ooohed" and "aaahed" over the performance as Dawn and her assistant stood at the edge of the pool and directed the whale, affectionately known as "Tilly," through his routine. Tilly pirouetted effortlessly in the water, matching Dawn's own circular steps on land as if his 12,000 pound bulk was an afterthought. He slid gracefully out of the water, launching his twenty-two-foot body onto a platform where he lifted his tail, or fluke, and opened his mouth while the trainer dumped a load of fish into it. Meanwhile, a voice-over explained the relationship between the trainer and whale and the purpose of each behavior.

At the conclusion of the show, Dawn laid down on a ledge of the pool near Tilly. He glided over to her and grabbed her arm, "guiding" her toward a deeper portion of the pool.[3] Before anyone could realize what was happening, the water erupted in violent splashes, and Dawn was nowhere to be seen. However, two bystanders were in the underwater "Shamu" observation area at the

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estimated age of two. *Id.* Since that time, Tilly has become the captive industry's most successful stud, siring more than thirteen calves, which make up nearly 60% of all captive-born orcas in the United States since successful captive breeding began in 1985. *Id.*

[3] How the attack began is disputed by eyewitnesses. SeaWorld claimed that Tilly grabbed onto Brancheau's ponytail and yanked her into the pool. *See* Mike Schneider, *SeaWorld Whale Kills a Trainer as Visitors Watch,* HERALD-TRIBUNE (Feb. 25, 2010, 8:20 AM), http://www.heraldtribune.com/article/20100225/article/2251077. Others say that Tilly jumped out of the water and latched onto Brancheau, pulling her into the pool with him. *Id.* However, the most reasonable account appears to be that Tilly actually began the attack by gently guiding Brancheau into the pool by her left arm as she lay on a partially submerged ledge. *See Exclusive Interview: Former SeaWorld Trainer John Jett PhD Talks Tilikum with T.O.P.*, THE ORCA PROJECT (Oct. 27, 2010), http://theorcaproject.wordpress.com/2010/10/27/exclusive-interview-former-seaworld-trainer-john-jett-phd-talks-tilikum-with-t-o-p/. According to Jett, proponents of the ponytail theory "are basing it on nothing more than what they want to put out; nothing more than the story line [sic] that they want to perpetuate. The evidence is quite clear that it was initially an arm grab and had nothing to do with Dawn's ponytail." *Id.* This analysis is corroborated by the widely disseminated "Connell Video" which was shot by a guest watching the show moments before the attack became brutal. *Uncut Home Video Before Whale Attack*, WCBTV (February 25, 2010), http://www.youtube.com/watch?v=-f5B-7KEJr8.

time, and they could see exactly where Dawn went: she was in Tilly's mouth.[4]

Dawn thrashed against the water and the whale, desperately trying to escape his vise-like grip. Tilly continued to dive and surface, pummeling Dawn's body so hard against the water that her water shoes went flying through the air.[5] Meanwhile, SeaWorld's alarms began sounding, and the viewers were frantically rushed to an area where they could not witness what would happen next.

All attempts to distract Tilly from Dawn were futile and after a few minutes, Dawn quit struggling. She lay limp in Tilly's mouth as trainers coaxed Tilly with nets to the medical pool where the bottom of the tank was raised and trainers descended on Tilly to remove the trainer from his tightening grasp. He lay nearly as lifeless as his hostage as the water level became too low for him to move. Dawn's body was taken from Tilly in pieces and brought to the edge of the pool where attempts to revive her were deemed unsuccessful.[6]

The paramedics arrived. The family was notified. News of the attack and death spread like wildfire across the nation, and Tilly was left in isolation while all employees were advised to keep their distance from the "killer."

What went wrong? This whale was supposed to be trained, so how could he hurt the person who cared for him for over a decade? As David Letterman put it, "You know, it's a killer whale . . . it's not like you haven't seen its resume."[7]

Questions ensued and the public demanded answers. Despite pressure to end the Shamu shows across the country, and particularly in Orlando, the shows continued. Tilly was left in isolation, and trainers were only allowed to interact with him during feedings or

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[4] Schneider, *supra* note 3.

[5] *Id.* According to Victoria Biniak, a park guest, Tilly "started thrashing around, and one of [Dawn's] shoes flew off." *Id.*

[6] *See* Joshua D. Stephany, MD, *Autopsy Report for Dawn Brancheau*, OFFICE OF THE MEDICAL EXAMINER DISTRICT NINE (2010), *available at* http://www.autopsyfiles.org/reports/ Other/brancheau, dawn_report.pdf. The cause of death was ruled a mix between drowning and traumatic injuries. *Id.* at 2.

[7] *Late Show With David Letterman* (CBS television broadcast on Nov. 30, 2006) (joke in response to a killer whale's attack on its trainer at SeaWorld San Diego).

breedings.[8] But the show went on.[9] Exactly six months after the attack, the Occupational Safety Health Administration (OSHA) released the results of its investigation, which demanded SeaWorld prohibit trainers from interacting with all whales unless protected by a barrier.[10] Then the question inevitably became, "*Can* the show go on?"

This article will examine how this incident was possible and how it can be prevented in the future by investigating basic killer whale biology and sociology, the history of the captive industry, current codes and statutes that protect captive animals and their trainers, and it will ultimately suggest how the law and its enforcement must evolve to better protect the whales and those who love them.

II. SCIENTIFIC AND HISTORICAL BACKGROUND

A. Killer Whale Biology and Sociology

In order to understand how Dawn's death was possible and what must be done to prevent future deaths, it is necessary to understand the animals themselves and gain insight as to why they behave as they do.

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[8] *See* The Orca Project, *Seeing is Believing: Tilikum's Lonely Life After Dawn*, THE ORCA PROJECT (Sept. 3, 2010), http://theorcaproject.wordpress.com/2010/09/03/seeing-is-believing-tilikums-lonely-life-after-dawn/.

[9] Although SeaWorld's *Believe* shows continued after Dawn's death, SeaWorld pledged that trainers would not be allowed to enter the water again until the "procedures that guide . . . interactions with killer whales" had been thoroughly reviewed. *A Message from Jim Atchison: President, SeaWorld Parks & Entertainment* (CBS television broadcast Feb. 26, 2010), *available at* https//www.youtube.com/watch?v=3F1GJPrA5cg. As of September 2011, trainers still do not enter the water with killer whales at any SeaWorld park. *Id.*

[10] *See* INSPECTOR 314336850, *Citation and Notification of Penalty*, OCCUPATIONAL SAFETY & HEALTH ADMIN., U.S. DEP'T. OF LABOR (2010), *available at* http://www.osha.gov/dep/citations/seaworld-citation-notification-of-penalty.pdf. SeaWorld was cited for a "willful violation" of employee safety and fined a total of $75,000. *Id.* at 5.

1. Physical Description and Individual Identification

Orcinus orca, commonly known as the orca or killer whale, received its vicious name not because of its relationship with humans, but from whalers who observed the animals feeding on baleen whales.[11] Despite what its common name implies, killer whales are actually the largest members of the dolphin family.[12] They are identified by their iconic black bodies, white eye patches and underbellies, as well as their distinctive "saddle patches" and dorsal fins.[13] Killer whale researchers in the Pacific Northwest pioneered individual identification methods by realizing that photographs of each individual animal were unique.[14] As a result, every killer whale on the planet can be identified by examining

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[11] ROBIN W. BAIRD, KILLER WHALES OF THE WORLD: NATURAL HISTORY AND CONSERVATION 7 (2006). The name *Orcinus orca* is a Latin reference to the realm of the underworld. *Id.* The first scientific description of killer whales was by Linnaeus in 1758. *Id.* He called them *Delphinus orca*, which translates to "demon dolphin." *Id.*

[12] *Id.* The term "whale" is commonly used to refer to the larger species belonging to the order *Cetacea* (whales, dolphins, and porpoises). *Id.* Dolphins are *odontocetes*, meaning toothed whales, and killer whales have between 40-52 conical teeth. *Id.* at 9.

[13] *Id.* The term "saddle patch" refers to the grayish area behind the animal's dorsal fin. JOHN K.B. FORD, GRAEME M. ELLIS & KENNETH C. BALCOMB, KILLER WHALES: THE NATURAL HISTORY AND GENEALODY OF ORCINUS ORCA IN BRITISH COLUMBUS AND WASHINGTON STATE 14, (2nd ed. 2000). *See infra* App. A photograph one.

[14] FORD ET AL., *supra* note 13, at 13. Dr. Michael Bigg began studying killer whales in British Columbia in 1970. *Id.* Fisheries managers and seaside communities were concerned about the live-capturing of killer whales for aquatic parks. *Id.* As a result, people like Dr. Bigg were commissioned to conduct a stock assessment survey to determine how many animals were actually living in the region. *Id.* The first official Canadian Killer Whale Census began in 1974. *Id.* at 14. This study uncovered that every whale is physically unique and could be identified through a photo-identification process pioneered by Dr. Bigg. *Id.* In order to keep a running survey and genealogy of individuals, each animal is assigned a letter and number that corresponds to their sighting order and family group. *Id.* at 41. While letters and numbers are the scientific method for killer whale record keeping, some coastal communities give the animals more user-friendly "street names" like Polaris and Nigel. *See Meet the Southern Resident Whales*, The Whale Museum, http://www.whale-museum.org/programs/orcadoption/whalelist.html.

photographs of the saddle patch and dorsal fin for distinctive patterns, nicks, and scars.[15]

The killer whale is a "cosmopolitan" wide-ranging cetacean and can be found in every ocean on the planet, although individual populations are relatively small and restricted to specific geographic areas.[16] They can reach top traveling speeds of up to 30 mph for short bursts and have been known to travel up to 100 miles per day.[17]

Killer whales are sexually dimorphic, meaning that males and females differ in body shape and size.[18] Adult males can weigh up to 13,300 pounds and reach lengths of up to twenty-three feet.[19] They also have much larger dorsal fins, which can reach almost six feet tall.[20] Females, on the other hand, are generally between sixteen and twenty feet long and can weigh upwards of 8,000 pounds.[21] Their dorsal fins are also substantially shorter than adult males' and curve toward their fluke.[22] Both sexes reach sexual maturity in their early teenage years; however males continue to physically mature into their twenties.[23] Females generally give birth to their first calf between the ages of fifteen and seventeen and will have, on average,

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[15] FORD ET AL., *supra* note 13, at 42. Although somewhat tedious, killer whale identification has proved a valuable method for tracking individual movements as well as genealogies throughout the world. BAIRD, *supra* note 11, at 73. In fact, the study of killer whale identification can be likened to the science of finger-print analysis – each saddle/dorsal combination, while at times subtle, is as unique as human fingerprints. *Id.*

[16] FORD ET AL., *supra* note 13, at 11. In fact, the killer whale is one of the most widely distributed mammals on earth. *Id.* The most concentrated populations of killer whales can be found in Washington State, Alaska, British Columbia, the Patagonia Coast of Argentina, Iceland, Norway, New Zealand, and the Crozet Archipelago in the southern Indian Ocean. BAIRD, *supra* note 11, at 31.

[17] *Id.* at 33.

[18] *Id. at 9.*

[19] *Id.* at 10. The largest killer whale ever documented was a thirty-foot-long adult male. *Id.*

[20] *Id.* Males also have larger tail fins, or flukes, which actually begin to curl under with age and sexual maturity. *Id.*

[21] *Id.*

[22] *Id.* Female dorsal fins may reach up to three feet tall, and they are shaped more like a crescent moon than the taller, straighter fins of adult males. *Id.*

[23] FORD ET AL., *supra* note 13, at 22. The timing of major events in the reproductive life-cycle of killer whales is not that different from those in the human life-cycle. *Id.*

one calf every three to five years until they reach their early to mid-forties.[24] Although killer whales have only been studied in the wild since the 1970s, researchers in the Puget Sound area speculate that some individuals can live to be over 100 years old.[25] This longevity has contributed to the notion that killer whale societies are highly structured family groups where knowledge of hunting grounds, language, and even culture are passed down from generation to generation.[26]

2. Social Structure

Killer whales live in matriarchal societies where it is presumed that an older, dominant female manages the family group, also known as a "pod."[27] It is through the pod and elder individuals that young animals learn their family's dialect, hunting grounds, hunting techniques, sexual behavior, and even what food is appropriate to eat.[28] This transmission of "customs" has led researchers to suggest that killer whales actually have different cultures, much like humans.[29]

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[24] *Id.* The killer whale's gestation period is between sixteen and seventeen months. *Id.* Single calves are born tail-first and are between six and eight feet long, weighing roughly 350 pounds. *Id.* Because orcas are mammals, like humans, they feed their offspring rich milk for up to two years. *Id.* Calves are excellent swimmers from birth, however they will often travel in their mothers' "slip-streams," or beneath the mothers' bellies, in order to draft off the mothers' propulsion which allows them to keep up with adults easier. *Id.*

[25] *Id.* at 84. A killer whale in Puget Sound known to whale researchers as "J2" and the people of the area as "Granny" is estimated to have been born in 1911. *Id.* This estimate is based upon old photographs in which she can be identified as well as adding up the ages of her descendants and guessing roughly how old she must be. *Id.* As of late 2011, J2 is presumed to be the mother of J1 (a recently deceased male estimated to have been born in 1951); grandmother of J14 (a female born in 1974); and great-grandmother of J30 (a male born in 1995), J37 (a female born in 2001), J40 (a female born in 2004), and J45 (a male born in 2009). *See J Pod Identification*, THE CENTER FOR WHALE RESEARCH, www.whaleresearch.com/orca_ID_pods.html (last visited Nov. 9, 2011).

[26] *Homepage,* ORCA NETWORK, http://www.orcanetwork.org/ (last visited Nov. 9, 2011).

[27] FORD, ET. AL., *supra* note 13, at 23.

[28] *Id.*

[29] *Id.*

Killer whales of the Eastern North Pacific are commonly divided into three distinct groups or cultures: Resident (fish-eaters), Transient (mammal-eaters), and Offshore (animals that live primarily beyond the continental shelf).[30] The most well-known group is the Southern Resident Killer Whales of Puget Sound.[31] This population has been studied by Ken Balcomb since his initial survey in 1976.[32] One of his most astounding findings is that killer whale calves in Resident communities remain with their mothers for their entire lives.[33] This has allowed Balcomb and his colleagues to not only

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[30] *Id.* at 18-20. While the terms can be misleading, all killer whales stay in a territorial zone, although this zone may extend for hundreds of miles. *Id.* Transient behavior was initially unpredictable and social ties seemed a bit looser, contributing to their name. *Id.* Not much is known about Offshore groups because they rarely are observed in inland waters, making them difficult to track and study. *Id.* However, Resident orcas are regularly studied and much of what is known about killer whales comes from research done on resident orca populations. *Id.*

[31] *Id.* at 47. This population group has the most annual contact with tourists and can be observed in Washington State's San Juan Islands regularly from May until September every year. *Id.* The clan is comprised of three pods: J, K, and L. *Id.* These animals are particularly well-known to the general public because they portrayed Willy's family group in the *Free Willy* movie franchise. *See* The Whale Museum, *supra* note 14. In fact, many of the images of wild whales in the second installment, *Free Willy: The Adventure Home*, are members of J and K Pods. *Id.*

[32] *See About the Center for Whale Research*, THE CENTER FOR WHALE RESEARCH, http://www.whaleresearch.com/about.html (last visited Sept. 26, 2011). Since the survey began, Balcomb has documented 47 individuals in J Pod, 44 in K, and 118 in L – a total of 209 animals. *See Research*, THE CENTER FOR WHALE RESEARCH, http://www.whaleresearch.com/research.html (last visited Sept. 26, 2011). As of November 2010, there were 88 individual animals in the Southern Resident Community, including: 28 members of J Pod, 20 in K, and 41 in L Pod. *Id.* Final population counts for each year are tabulated each winter. *Id.* The newest member of the group, a male, belongs to K27 of K Pod and was born July 6, 2011. *Id.* He was designated K44 and is part of a matriline that includes, not only his mother, but grandmother, aunts, uncles, and male cousin. *Id.* This particular population group of killer whales was designated as Endangered in 2005 with causes leading to the listing being: toxic contamination, depletion of salmon stocks (their main food source), and decreased genetic diversity due to live-captures in the 1960s and 70s. *See* Margaret M. Krahn et. al., 2004 *Status Review of Southern Resident Killer Whales (Orcinus Orca) Under the Endangered Species Act*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION 60-61 (2004), http://www.nwsfc.noaa.gov/assets/25/5932_02102005_172234_krahnstatusrevtm62final.pdf (last visited Sept. 27, 2011).

[33] FORD, ET. AL., *supra* note 13, at 23.

keep track of the individual animals in the community, but also their maternal parentage, creating genealogies that go back more than four generations in some cases.[34]

Killer whales are acoustic creatures and primarily locate and catch their prey through the use of echolocation.[35] They also employ various "dialects" which are unique to each individual family group.[36] The pod vocabulary is indoctrinated into the calves at very young ages, and those calves will use this dialect for the rest of their lives.[37]

While research continues to shed new light on the lives of wild killer whales, it is undisputed by marine mammal scientists that they are highly intelligent mammals who maintain complex societies and develop lifelong bonds with their family members.[38] Knowing how killer whales survive in the wild inevitably leads researchers, whale lovers, and aquarium owners to draw their own conclusions regarding how they should be cared for in captivity. However, this begs the question: how did they get into captivity in the first place?

B. Captivity: From Killer to Friendly Shamu and Back to Killer

As mentioned before, while not entirely accurate, the name killer whale does truthfully portray the species' position at the top of the oceanic food chain. It was this reputation as a skilled hunter and thinker that promulgated their notoriety in the past.[39] In fact, it was not long ago that killer whales were shot by fisherman and feared by U.S. Navy Seals.[40] However, this once fearsome reputation changed

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[34] *Id.* at 84-95.

[35] *Id.* at 21.

[36] *Id.* Researchers believe dialects may be used by the whales as "acoustic indicators of group identity and membership, which . . [serves] to preserve the integrity and cohesiveness of the social unit." *Id.*

[37] *Id.*

[38] *Id.* at 23. There are even theories that suggest killer whales are self-aware. *See* F. Delfour & K. Marten, *Mirror Image Processing in Three Marine Mammal Species: K*iller *Whales (Orcinus Orca), False Killer Whales (Pseudorca Crassidens) and California Sea Lions (Zalophus Californianus)*, BEHAVIORAL PROCESSES, Vol. 53, Issue 3, 181, 189 (April 26, 2001).

[39] BAIRD, *supra* note 11, at 7.

[40] *See Animal Info: Killer Whales, Views From the Past*, SEAWORLD, http://www.seaworld.org/animal-info/info-books/killer-whale/conservation.htm

with the capture of a small whale named Moby Doll in British Columbia, Canada.[41] Although he lived only 87 days in captivity, "the widespread publicity . . . some of it, the first positive press ever about killer whales – marked the beginning of an important change in public attitude toward the species."[42]

(last visited Sept. 26, 2011). Many in modern civilization still envisioned killer whales as terrifying threats to humans, with a 1973 United States Navy diving manual warning that killer whales "will attack human beings at every opportunity." *Id.* A Southern Resident Killer Whale identified as J17, born as recent as 1977, has what appears to be a healed bullet wound on her right side's saddle patch. *See J Pod Identification*, *supra* note 25.

[41] *See* ERICH HOYT, ORCA: THE WHALE CALLED KILLER 15 (Firefly Books, Ltd. 1990). In 1964, the Vancouver Aquarium commissioned a sculptor named Samuel Burich to find and kill an orca and create a life-size model for display in the entrance of the aquarium. *Id.* He set up a harpoon gun on Turn Point of Saturna Island, located in British Columbia's Gulf Islands. *Id.* at 15-16. After two months of waiting by the gun, a pod of 13 killer whales passed Turn Point, and Burich shot a young animal in the back near its dorsal fin. *Id.* at 16. The animal did not die, but was severely injured. *Id.* According to observers, after the animal was harpooned, two pod members

> [i]mmediately . . . came to the aid of the stunned whale, pushing it to the surface to breathe. Then the whale seemed to come to life and struggled to free itself – jumping and smashing its tail and . . . uttering 'shrill whistles so intense that they could easily be heard above the surface of the water 300 feet away.'" *Id.*

Upon witnessing the animal's agony, Burich went out in a small boat to finish the job. *Id.* He fired several rifle shells at the whale, but it still did not die. *Id.* The aquarium director, Murray A. Newman, soon arrived from Vancouver by float plane and decided to try to save the 15-foot-long 2,000 pound whale. *Id.* Using the line attached to the harpoon in its back, they towed the whale across the Strait of Georgia to Vancouver. *Id.* It took 16 hours to drag the whale "through choppy seas and blinding squalls" to its makeshift pen at Burrard Drydocks. *Id.* The animal was named Moby Doll, as it was presumed to be a female since it was relatively small, although Moby Doll's necropsy later indicated *she* was, in fact, a *he*. *Id.* at 16-17. Acoustic studies were conducted on Moby Doll as he called to his family from the pen. *Id.* at 50. These recordings now suggest that Moby Doll was a member of J Pod. *Id.* Initial observations of the whale revealed that he "seemed to be suffering from shock . . . . For a long time, Moby Doll . . . would not eat. [He] was offered everything from live salmon to horse hearts, but the whale only circled the pool night and day in . . . [a] counterclockwise pattern." *Id.* at 16. After 55 days in captivity, Moby Doll began eating up to 200 pounds of fish a day. *Id.*

[42] *Id.* Newspapers around the world chronicled Moby Doll's death. *Id.* *The Times* of London gave the whale's obituary a two-column heading, the same

The first whale to actually perform in captivity was an adult bull in Seattle named Namu.[43] While Namu's captive life was also relatively short-lived, his impact was eternal. His ability to perform for paying customers began the Pacific Northwest's "black and white gold rush" and spurred the public's desire to learn more about such magnificent creatures.[44]

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size given to the outbreak of World War II. *Id.* Moby Doll captured the imagination of the public and ultimately paved the way for the captive killer whale industry.

[43] *Id.* at 62. Namu was accidentally captured in a gill net near Namu, British Columbia in 1965 when a fisherman's net became entangled in a reef, and he cut it free. *Id.* The morning after the snag, two killer whales were found in the net, an adult bull and a calf. *Id.* at 63. According to the fisherman, "The first day . . . the bull slipped out through a place between the net and the rocks, as if showing the calf the route to freedom. The baby stayed put, so the bull returned. Two days later, the calf was gone, but for some reason, the bull remained." *Id.* Namu was purchased by a Seattle entrepreneur named Ted Griffin and was towed in a makeshift net pen for 450 miles behind Griffin's boat to the Seattle Public Aquarium. *Id.* Namu was loved by the public and even inspired a rock song and a movie about him. *Id.* He ate 375 pounds of dead fish a day, roughly five percent of his total body weight. *Id.* at 14. Despite his rapport with Griffin, and his acceptance of his new performance and feeding routines, Namu was known to issue "loud, strident screams" regularly from his Rich Cove pen. *See* Frontline, *A Whale of a Business*, PUBLIC BROADCASTING COMPANY, http://www.pbs.org/wgbh/pages/frontline/shows/whales/etc/orcas1.html. (last visited Sept. 26, 2011); HOYT, *supra* note 41, at 114. "At times, his cries were picked up by passing Puget Sound whales, who apparently returned the sounds." HOYT, *supra* note 41, at 114. With no warning, Namu died due to an infection from polluted water in his pen in July 1966. *Id.* at 238. He survived a total of eleven months in captivity. *Id.* After Namu's death, Griffin was determined to replace him with another animal. *Id.* As a result, Griffin developed the first ever netting strategy specifically for orcas. *Id.* at 259.

[44] *Id.* The first of SeaWorld's whales was captured in 1965. *Id.* at 203. The animal was a juvenile, caught by Ted Griffin and Don Goldsberry in Carr Inlet, Washington. *Id.* She was named Shamu, and was the first successful live-capture animal obtained using Griffin's technique. *See* Frontline, *A Whale of a Business*, *supra* note 43. They put her in the pen with Namu for a short time until she was sold and flown to SeaWorld San Diego in December 1965. *Id.* Shamu died at SeaWorld San Diego in August, 1971, after six years in captivity. *Id.* She was subsequently replaced by an animal named Shamu II, initiating the use of Shamu as the stage name given to all performing orcas in the SeaWorld chain of parks. *Id.* Because killer whales were difficult to distinguish, the public was often unaware when one Shamu died and was replaced by another animal with the same name. *Id.*

While people no longer viewed killer whales as frightening or nuisances, the change in reputation did not come without a cost. Over 150 animals worldwide, mostly juveniles, have been taken from their wild family groups and sold into captivity since 1965.[45] These impacts are still felt today. The Southern Resident Killer Whales, progenitors of some of the present-day Shamus, were listed as endangered in November of 2005, with decreased genetic diversity as a result of excessive captures as one of the factors leading to their decline.[46]

Because captivity comes at such a high price to the wild stocks as well as to the captive animals themselves, animal rights activists believe that aquariums must show relevant, present-day reasons why the show should continue.[47] This is becoming an increasingly difficult task for dolphinariums like SeaWorld after the recent death of seasoned trainer Dawn Brancheau.

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[45] *See* Jacobs, *supra* note 2. Perhaps one of the most famous American captures of killer whales took place on August 8, 1970 at Penn Cove on Whidbey Island in Washington State. HOYT, *supra* note 41, at 123. *See* ORCA NETWORK, *supra* note 26, at Lolita's Capture Page. Several whales drowned in the process and were disposed of in a covert night operation so as not to alert the increasingly skeptical public to their deaths. *Id.* These animals were slit open and their bellies were filled with rocks in order to anchor them to the sea floor. *Id.* Their carcasses washed ashore months later. *Id.* Only one whale captured at Penn Cove survives as of November 2010. She is named Lolita, and she still performs at the Miami Seaquarium in Florida. *Id.* She is the only Southern Resident Killer Whale on public display to still survive. *Id.* Once public outcry resulted in Washington State's outlaw of live-captures, the captive industry turned to Iceland for its supply of new orca stars. *See* Frontline, *A Whale of a Business, supra* note 43. Two whales subsequently taken from Icelandic waters have become the most talked about orcas in history. One whale, captured in 1979 and eventually named Keiko, became a global phenomenon as the star of the popular movie *Free Willy*. *See id.* His plight in a small Mexican aquarium and his eventual release back to Iceland marked a major change in public sentiment toward captive killer whales. *Id.* The other Icelandic whale to reach notoriety was a young male calf captured in 1983. *See id.* Unlike Keiko before him, he would become both the public and aquaria's nightmare. *Id.* This animal was named Tilikum, meaning "friend" in Chinook. *Id.*

[46] *See* Status Review of SRKWs, *supra* note 32, at 60-61.

[47] *See* Aquariums & Marine Parks, PEOPLE FOR THE ETHICAL TREATMENT OF ANIMALS, http://www.peta.org/issues/animals-in-entertainment/aquariums-and-marine-parks.aspx (last visited Sept. 26, 2011).

C. Dying to Entertain You

Killer whales are presently displayed at five different theme parks across the United States, including: SeaWorld San Diego, SeaWorld San Antonio, SeaWorld Orlando, The Miami Seaquarium, and Six Flags California: Discovery Kingdom.[48] Of the twenty-one killer whales kept in those facilities, all but two reside in SeaWorld parks.[49]

1. Killer Whale Deaths

Since its inception, the captive killer whale industry in the United States alone has lost seventy-one killer whales to birthing complications, sicknesses, aggression, and "unknown causes."[50] Of these animals, the average time they were kept alive in captivity was 7.18 years.[51]

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[48] *See* Stefan Jacobs, *The Deadly History of Captive Killer Whales*, ORCA HOMEPAGE http://www.orcahome.de/orcadead.htm (last visited Sept. 26, 2011).

[49] *See id.* As of August 2011, killer whales kept in the United States include: Corky II (approx. age 45); Lolita (approx. age 46); Katina (approx. age 35); Ulises (approx. age 34); Kasatka (approx. age 33); Tilikum (approx. age 31); Orkid (22); Kayla (22); Takara (20); Kyuqot (19); Keet (18); Shouka (18); Unna (14); Tuar (12); Nakai (9); Kalia (6); Trua (5); Nalani (4); Malia (4); Sakari (1); Makaio (10 months). *Id.*

[50] *See id.* This number is roughly 82% of the current total population of endangered Southern Resident Killer Whales. *See* David Ellifrit, Kenneth C. Balcomb III, & Erin Heydenreich, 2010 Official Orca Survey: Summer Edition, The Center for Whale Research (2010).

[51] *See* Jacobs, *supra* note 48. This number includes all animals whether live-captured or captive-born and considers not their age at death, but their time alive in captivity. *Id.* This is because the ages of live-captured animals were either unknown at the time of their capture or ranged between a few years to adulthood. *Id.* This statistic does not include animals that are still living in captivity. *Id.* Corky, a killer whale residing at SeaWorld San Diego, holds the current record for captive survivability, as she has lived 42 years in captivity. *Id.* She was estimated to be roughly three when she was captured, making her about forty-five-years-old. *Id.* Lolita, of the Miami Seaquarium, is also believed to be about 46 years old, but she has been in captivity for 41 years. *Id.* Ulises of SeaWorld San Diego holds the record for the oldest male in captivity in the U.S. at approximately age 34. *Id.*

In the past twenty-five years, twenty-five whales have died at SeaWorld, all of whom were under the age of thirty.[52] As of December 2010, a total of forty-six killer whales have died at SeaWorld since it first displayed them in 1965.[53] Even more shocking is the fact that four animals have died since Dawn's death in February 2010, three of which were housed at SeaWorld of Orlando.[54] While many of these losses have taken place away from park guests, one of the most public killer whale deaths occurred in front of an audience at SeaWorld San Diego on August 21, 1989.[55]

KanduV was the dominant female of the SeaWorld San Diego operation and had recently given birth to a calf, named Orkid in memory of her deceased father, Orky II.[56] During a show, KanduV

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[52] McClatchy-Tribune News Service, *SeaWorld Killer-Whale Death is Third in Four Months, 24th in 25 Years*, BOULDER WEEKLY (Oct. 6, 2010), http://www.boulderweekly.com/article-3497-seaworld-killer-whale-death-is-third-in-four-months-24th-in-25-years.html.

[53] *See* Jacobs, *supra* note 48. The following is a list of all of the animals who died at SeaWorld Parks and their respective ages at their time of death:

> Shamu (approx. 6); Ramu (approx. 15); Kilroy (approx. 11.5); Kandu (approx. 4 years); Orky2 (approx. 20); Nootka (approx. 20); Winston (approx. 15.5); Kandu3 (approx. 4 years); Sandy (approx. 4.5); Kona (approx. 6); Canuck (approx. 2.5); Frankie (5 months); Kandu (approx. 15); Kenau (15); Gudron (approx. 19.5); Canuck2 (approx. 4); Kona2 (approx. 10); Kandu5 (approx. 12); Winnie (approx. 24.5); Kotar (16.5); Shawn (1); Kahana (2); Nootka4 (approx. 12); Haidi2 (approx. 9); Samoa (8.5); Baby Shamu2 (11 days); Katerina (10.5); Splash (15.5); Kenau's baby died in womb; Samoa's baby died at birth; Taku (14); Nyar (2); No Name (8 days); Hayln (2.5); Taima (approx. 21 years); Taima's stillborn calf; Bjossa (approx. 21); Haida2's baby died in womb; Stillborn calf to Kalina; Stillborn calf to Gudron; Stillborn calf to Nootka4; Kona2's baby died in womb; Corky2 had a miscarriage; Kandu5 had stillborn calf; Unna had stillborn calf; Sumar (12); and Kalina (25). *Id.*

[54] McClatchy-Tribune News, *supra* note 52.

[55] Tim Zimmerman, *Do Orcas at Marine Parks Injure One Another?*, OUTDOOR MAGAZINE BLOG (Sept. 14, 2010), http://timzimmermann.com/2010/09/14/do-orcas-at-marine-parks-injure-one-another/.

[56] *Id.*

became aggressive with another adult female named Corky II.[57] KanduV rammed into Corky II, barely injuring Corky II, but fracturing her own jaw in the process.[58] The fracture dislodged part of her jawbone, severing a major artery.[59] Kandu bled out over a period of forty-five minutes in front of a screaming crowd and her eleven-month-old calf.[60]

Other whales have fallen victim to acts of self-aggression, including Hugo, an animal who died of a brain aneurism as a result of repeatedly bashing his head against the walls of his enclosure.[61] Independent researchers are calling the captive industry's husbandry techniques into question due to the whales' relatively low life-expectancies and somewhat alarming deaths.[62]

According to Erich Hoyt, an expert in killer whale natural history, the likely causes for the short life-expectancy of captive orcas include: stress, inadequate facilities, a high turnover of regular caretakers, and biased veterinarians.[63] Excessive stress in marine mammals "can lead to ulcers, breakdown of immune systems, [and] even death."[64] The most commonly implicated potential stressors for captive killer whales include: "separation, social isolation, movement from an established environment to one with a different social order,

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[57] *Id.*

[58] *Id.*

[59] *Id.*

[60] *Id.* As of November 2011, Orkid is still on display at SeaWorld San Diego, and she spends the majority of her time with her adoptive mother Corky II, one of the oldest whales in captivity. *See* Sarah Y., *Orkid,* BEYOND THE BLUE, http://www.freewebs.com/beyondtheblue/orkid.htm (last visited Nov. 8, 2011). SeaWorld has often claimed that killer whales will naturally fight with one another in order to determine social structure but has stressed that these incidents are almost never fatal. Zimmerman, *supra* note 55.

[61] *See* Jacobs, *supra* note 48.

[62] ERICH HOYT, THE PERFORMING ORCA: WHY THE SHOW MUST STOP (Whale and Dolphin Conservation Society 1992).

[63] *Id.* at 50. Hoyt believes the facilities are not conducive to orca longevity and that the high turnover rate of trainers makes it difficult for them to become astute observers of their charges' health. *Id.* He also claims that because attending veterinarians are employed by the facilities that keep the animals, they are "unlikely to extrapolate publicly on their findings in any way that might implicate the marine park or another veterinarian." *Id.*

[64] *Id.* at 53.

poor nutrition, overcrowding, and housing with over-aggressive pen mates or in poorly designed enclosures."[65] Hoyt believes the most successful captive health care programs should not only consider the immediate medical needs of the animals but must evaluate the environmental and social influences as well.[66]

All of the parks in the United States that house killer whales are members of the Alliance of Marine Mammal Parks and Aquariums (AMMPA).[67] The AMMPA claims its accredited members "collectively represent the greatest body of professional expertise and knowledge regarding marine mammal husbandry."[68] According to the AMMPA, the accreditation standards and guidelines "optimize the physical health of and environmental conditions for the [animals at their member facilities]."[69] The AMMPA believes that killer whales are one of the success stories of captive marine mammals,[70] despite the somewhat dismal statistics of their captive survival rates. Marilee Menard, the Executive Director of the AMMPA, claims that "[member aquariums'] success is reflected in our study that shows that the dolphins in Alliance member facilities live almost twice as long as those in the wild, on average."[71] This statement is simply not supported by any current scientific data on killer whales in captivity or the wild.

Unfortunately, animal survival is not the only health and safety concern for the captive industry. Humans have also been seriously injured and even killed as a result of working with killer whales.

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[65] *Id.* at 53-54.

[66] *Id.* at 55.

[67] *See Our Members*, ALLIANCE OF MARINE MAMMAL PARKS & AQUARIUMS, http://www.ammpa.org/ourmembers.html (last visited Nov. 8, 2011).

[68] *Standards and Guidelines*, ALLIANCE OF MARINE MAMMAL PARKS & AQUARIUMS 1 (2010), http://www.ammpa.org/_docs/S_GSummary2010.pdf.

[69] *Id.*

[70] *Id.*

[71] E-mail from Marilee Menard, Executive Dir., Alliance of Marine Mammal Parks & Aquariums, to author (Oct. 28, 2010, 13:24 PM) (on file with author) [hereinafter E-mail from Marilee Menard].

2. Killer Whale-Related Injuries (in the United States)

Dawn's death was not the first serious killer whale-related incident the captive industry experienced. In fact, it was simply the most publicized tragedy in a long history of minor injuries, serious threats, broken bones, and even human deaths. According to marine mammal veterinarian Jay C. Sweeney, "[a]ggression expressed by killer whales toward their trainers is a matter of grave concern."[72] In his *Handbook of Marine Mammal Medicine*, Sweeney claims that "[a]ggressive manifestations toward trainers have included butting, biting, grabbing, dunking, and holding trainers on the bottom of pools and preventing their escape."[73] While this may seem alarming to the casual SeaWorld visitor, this is not surprising to SeaWorld. Bruce Stephens, the former director of animal behavior at SeaWorld, said, "[a]ny person who has trained [killer whales] . . . has been thumped, bumped, bruised, bitten, and otherwise abused over the course of time."[74] However, he notes the record is "really . . . quite good . . . especially when you consider that about [forty] people a year are killed in accidents with elephants."[75]

Since 1968, there have been thirty media-reported serious incidents between killer whales and their trainers.[76] This number, however, is likely to be substantially smaller than the true amount of aggressive interactions because many injuries go unreported.[77]

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[72] HOYT, *supra* note 62 at 31.

[73] *Id.*

[74] *Id.*

[75] *Id.* Stephens fails to recognize that there are many more elephants kept in captivity compared to orcas and that they are much more accessible to human interaction because they are land animals. *Id.* According to Dr. Naomi Rose, the elephant-caused death statistic likely also includes deaths as a result of wild interactions with elephants. E-mail from Naomi Rose, Ph.D., Senior Marine Mammal Scientist, Humane Soc'y Int'l, to author (Feb. 7, 2011, 12:41 PM) (on file with author) [hereinafter E-mail from Naomi Rose]. In contrast, no wild orcas have ever been recorded to have killed or even seriously injured anyone. *Id.* All serious injuries and deaths related to killer whales have occurred solely in captivity over the past forty-five years. *Id.*

[76] Stefan Jacobs, *Violent Incidents Between Humans & Killer Whales*, ORCA HOMEPAGE http://www.orcahome.de/incidents.htm (last visited Oct. 24, 2010).

[77] HOYT , *supra* note 62, at 31.

The first publicized attack at SeaWorld occurred on April 19, 1971 when SeaWorld's PR Secretary Anne Eckis was attacked by the original Shamu.[78] Eckis, who had no formal training with killer whales, was asked to ride on Shamu's back in a bikini for publicity photos for SeaWorld San Diego.[79] Eckis was warned that riding a killer whale could be dangerous, but she claimed she was unaware Shamu had displayed aggressive behavior when being ridden in the past.[80] Eckis was reinforced in her decision to ride Shamu when Kent Burgess, SeaWorld's PR director, told her "there was nothing to be concerned about and . . . the ride was 'as safe as it could be.'"[81] The stunt began as planned, with no indication that Shamu was upset.[82] Eckis rode the whale around the tank, smiling and waving to the cameras.[83] However, by the third circle around the tank, Shamu dumped Eckis off her back and then began slamming Eckis with her head.[84] The whale refused to obey the trainers' signals to ignore Eckis, instead biting her legs and hips and holding her in the tank until a diver and multiple staff were able to pull her from the whale's grip.[85] Eckis suffered twenty puncture wounds, which required nearly 200 stitches and left permanent scars.[86] She spent five days in the hospital for her wounds and suffered "psychological disturbance."[87]

In March of 1987, Jonathan Smith, a twenty-one-year-old trainer at SeaWorld San Diego, was attacked during a show by KanduV and Kenau.[88] According to reports, KanduV suddenly grabbed Smith and dove with Smith in her mouth to the bottom of the

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[78] *See* Eckis v. SeaWorld Corp., 64 Cal. App. 3d 1 (1976).

[79] *Id.* at 5.

[80] *Id.* Shamu had been known to become angry when people rode her, and some trainers even refused to watch Eckis ride the whale because they thought it was "really dangerous" and she should not be allowed to do it. *Id.*

[81] *Id.*

[82] *Id.*

[83] *See* Eckis, 64 Cal. App. 3d at 1.

[84] *Id.*

[85] *Id.*

[86] *Id.*

[87] *Id.*

[88] HOYT, *supra* note 62, at 32.

tank.[89] She then brought him bleeding to the surface where she spat him out and Kenau slammed into him.[90] Throughout the attack, Smith waved to the crowd as if the attack were a part of the show – which he attributed to being a SeaWorld performer.[91] He continued to pretend to be unharmed as both whales repeatedly grabbed him and dragged him thirty-two feet to the bottom of the pool and back to the surface.[92] Eventually, other trainers were able to distract the animals while Smith swam to safety.[93] Smith suffered cuts around his torso, a ruptured kidney, and a six-inch laceration on his liver.[94]

Later that year, in August, another trainer was seriously injured when Orky, a mature male, leaped on top of twenty-six-year-old John Sillick.[95] Sillick narrowly escaped death, having to undergo six operations in fourteen months for severe fractures to his hips, pelvis, ribs, and legs.[96] According to Sillick's lawyer, he had to be "reconstructed" with three pounds of pins, plates, and screws, including a permanent plate in his pelvis and permanent fusion of his thoracic vertebrae.[97] Although he can walk today, his mobility is limited, and he never performed with a killer whale again.[98] SeaWorld attributed the whale's behavior to a miscue and ultimately a "tragic accident."[99] However, Orky's previous trainers at Marineland of the Pacific, said he had displayed aggression toward trainers before, and they "didn't regularly do water work with him because [they] didn't feel it was safe."[100]

Both Smith and Sillick eventually filed suit against SeaWorld, with Smith's lawyer claiming that SeaWorld did not "[warn trainers] about the 'dangerous propensities of killer whales' . . . ."[101] Smith

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[89] *Id.*
[90] *Id.*
[91] *Id.*
[92] *Id.*
[93] HOYT, *supra* note 62, at 32.
[94] *Id.*
[95] *Id.*
[96] *Id.* at 33.
[97] *Id.*
[98] HOYT, *supra* note 62, at 33.
[99] *Id.* at 34.
[100] *Id.* at 33.
[101] *Id.*

charged that SeaWorld "'negligently and carelessly owned, maintained, trained, inspected, controlled, supervised, located, transported, and placed' the orcas, thereby exposing Smith to serious injury."[102] Both suits were later settled and gag orders were imposed.[103] As a result of the increased frequency of attacks, SeaWorld revamped its training program, requiring trainers to direct the whales from the deck with hand signals.[104] However, this change was short-lived, and less than six months later, the trainers were back in the water.[105]

Since the 1980s and SeaWorld's supposed change in trainer protocol, violent incidents seem to have only increased. In 1999, Kasatka grabbed her trainer, Kenneth Peters's, leg and tried to toss him out of her pool.[106] In 2002, Splash and Orkid grabbed their trainer in front of park guests and pulled her into the tank, breaking her arm.[107] In 2004, Kyuquot repeatedly slammed his trainer of ten years under the water during the Shamu show.[108] In 2005, Taku attacked his trainer by slamming him while he was laying on a slide-out.[109] According to an eyewitness, Taku did not want to perform and began "bumping" the trainer repeatedly in defiance.

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[102] HOYT, *supra* note 62, at 33.

[103] *Id.*

[104] *Id.*

[105] *Id.*

[106] Oceanic Preservation Society, *The Dangers of Marine Mammals in Captivity: A Timeline of Injuries and Deaths to People, Dolphins, and Whales*, OCEANANIC PRESERVATION SOCIETY 3 (2010), *available at* http://thecovemovie.com/Blog_Photos_Here/marine%20mammals%20timeline.pd.

[107] Shanna McCord, *Whales Grab Trainer in Front of Guests*, SAN DIEGO UNION-TRIBUNE, August 8, 2002.

[108] *SeaWorld San Antonio Killer Whale Trainer Has Close Call*, KSAT, (July 27, 2004 12:04 PM), http://www.ksat.com/news/3581338/detail.html. *See* Verwante, Killer Whale?, GOOGLE VIDEOS http://video.google.nl/videoplay?docid=-7850130571607688507&q=killer+whale# (last visited Oct. 6, 2011).

[109] Christopher Sherman, *Killer Whale Jolts Trainer*, ORLANDO SENTINEL (April 4, 2005), http://articles.orlandosentinel.com/2005-04-04/news/0504040165_1_killer-whale-seaworld-orlando-trainer.

In 2006, Orkid grabbed a senior trainer named Brian Rokeach by the leg and held him underwater for twenty-six seconds.[110] Orkid released Rokeach, allowing him to swim to the surface before slamming him repeatedly, despite multiple trainers' signals to ignore Rokeach.[111] He was eventually able to escape, and although he did not go to the hospital, he suffered a torn ankle ligament.[112] In response, SeaWorld increased the number of trainers onstage during a show to five, in order to better respond to potential incidents.[113] However, this did not make a difference when fourteen days later, Kasatka attacked the most experienced trainer, Kenneth Peters, during a show at the same park.[114] Peters ended up with a broken left foot and multiple puncture wounds from Kasatka's powerful bite.[115]

Despite the long history of attacks, perhaps the most powerful warning came on Christmas Eve 2009. SeaWorld leased four of its killer whales to Loro Parque in Tenerife, Spain.[116] Loro Parque was thrilled to add killer whales to its park and held a huge welcome ceremony with over 3,000 guests and 200 journalists attending.[117] Keto, Kohana, Tekoa, and Skyla were all welcomed to the park by a priest who promised they would all be "very happy" and "well-cared for."[118] Unfortunately, the adjustment was not as smooth as SeaWorld and Loro Parque had hoped. On Thursday, December 24, 2009, as the trainers and whales were practicing for their Christmas show, Keto slammed into veteran trainer Alexis Martínez and held

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[110] Terry Rodgers, *Marine Park Cited After Whale Attack*, SAN DIEGO UNION-TRIBUNE, March 4, 2007.

[111] *Id.*

[112] *Id.*

[113] *Id.*

[114] Pauline Repard, *Killer Whale Bites Trainer, Takes Him to Tank Bottom*, SIGN ON SAN DIEGO (November 30, 2006 12:00 AM), http://www.signonsandiego.com/news/2006/nov/30/killer-whale-bites-trainer-takes-him-tank-bottom/.

[115] *Id.*

[116] Stefan Jacobs, *Four SeaWorld Orcas Were Moved to Loro Parque*, ORCA HOMEPAGE (Feb. 15, 2006), http://www.orcahome.de/news2006.htm.

[117] *Id.*

[118] *Id.* Kohana, Tekoa, and Sykla were all fathered by Tilikum and spent their lives prior to moving to Loro Parque at SeaWorld Orlando. *Id.* The fourth whale, Keto, was fathered by the late Kotar and lived in SeaWorld Orlando as well as SeaWorld San Antonio before being moved to Loro Parque. *Id.*

him beneath the water for roughly three minutes.[119] As a result, trainers are no longer allowed to perform water work with Keto, as he is labeled "dangerous."[120] Loro Parque claimed the death was a "tragic accident" and "shocking" because both Martínez and Keto were the most experienced performers in the park.[121] Martínez's death, however, appears to be anything but an accident. As the autopsy report bluntly stated, Martínez's death was "violent."[122] Martínez suffered multiple cuts and bruises, collapsed lungs, fractures of the ribs and sternum, a lacerated liver, severely damaged vital organs, and puncture marks "consistent with the teeth of an orca."[123] It concludes that his immediate cause of death was drowning but states that the underlying cause was "mechanical asphyxiation due to compression and crushing of the thoracic abdomen with injuries to the vital organs."[124] In other words, Keto "probably slammed into Martínez with such force that [Keto] caved in his chest."[125]

According to park officials, "[Martínez] was a very admired employee, a lover of orcas and [an] excellent professional whose passion was these animals."[126] His funeral was held on Christmas day.[127]

Despite insinuation to the contrary, SeaWorld was well aware of Martínez's death. Brian Rokeach of SeaWorld San Diego was not only on site at the time, he actually witnessed Keto take Martínez down during the training session.[128] In fact, Rokeach directed Martínez to remain in the water with Keto despite signs that Keto was uninterested and sexually frustrated due to his separation from

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[119] Press Release, Death of Trainer Alexis Martínez, LORO PARQUE (Dec. 24, 2009), *available at* http://www.loroparque.com/en/detalleNoticia.asp?id=2441.

[120] *Id.*

[121] *Id.*

[122] Tim Zimmerman, *Blood in the Water*, OUTSIDE MAGAZINE (July 15, 2011), http://www.outsideonline.com/outdoor-adventure/nature/Blood-in-the-Water-Keto.html?page=all.

[123] *Id.*

[124] *Id.*

[125] *Id.*

[126] Death of Trainer Alexis Martínez, *supra* note 120.

[127] *Id.*

[128] Zimmerman, *supra* note 123.

Kohana.[129] After a lengthy investigation into Martínez's death and SeaWorld's response, or lack thereof, reporter Tim Zimmerman concluded:

Given the subjectivity and complexity of the interaction between a human and a killer whale in a marine-park pool, it seems unlikely that any trainer can make the right decision each and every time. As former SeaWorld trainer Samantha Berg puts it, "Things are happening on so many different levels that any assertion that it's possible to control all the variables is absolutely ludicrous. And you can bet the whales were often frustrated when trainers did something that didn't make sense to them." A frustrated killer whale —whether it's struggling with captivity, social structure, sexual tension, poor health, or training failures —is a potentially dangerous killer whale.[130]

In the aftermath of Martínez's death, as with all serious killer whale-related attacks, SeaWorld briefly ceased water work at its three parks.[131] However, in what was becoming a dangerous pattern of complacency, within a week, water work resumed at all of them.[132] The next time SeaWorld halted water work was nearly two months after Martínez was killed, when tragedy struck on American soil after SeaWorld Orlando's most experienced trainer, Dawn Brancheau, was brutally killed by Tilikum in front of park guests.[133] Ironically, exactly one year after Dawn's death, SeaWorld announced it was beginning the process necessary to put trainers back in the water.[134]

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[129] *Id.*

[130] *Id.*

[131] *Id.*

[132] *Id.*

[133] *See* Atchison, *supra* note 9.

[134] *See* Jason Garcia, *SeaWorld Prepares to Put Trainers Back in the Water With Killer Whales*, ORLANDO SENTINEL (Feb. 23, 2011, 6:35 PM), http://www.orlandosentinel.com/business/os-seaworld-trainers-water-20110223,0,1956999.story. SeaWorld Parks and Entertainment said that its three parks will begin limited water work with the whales in the next few months. *Id.* However, the interaction will be only in small medical pools that have false-bottom floors that can be lifted out of the water. *Id.* The plan is to eventually reintroduce water work to the shows, which requires desensitization. *Id.* According to Julie Scardina, a corporate curator of zoological operations for SeaWorld Parks, "[SeaWorld feels] that that's the best way to not only showcase [killer whales] but to care for the animals, as well . . . It's something that we've been successful doing

a. Tilikum: A History of Violence

After Dawn was killed, the media immediately latched on to Tilikum's deadly past, and perhaps rightfully so, as Tilly was involved in two other human deaths prior to killing Dawn.[135] But what happened to this animal to turn him into a "serial human killer?" Tilikum's life with humans began in November 1983 near Berufjodur, Iceland when he and his family were captured in a purse-seine net.[136] He and two other calves were separated from their mothers and transported to Hafnarfjordur Marine Zoo where they awaited their new homes in distant North America.[137] The females were quickly shipped off to other aquariums, but two-year-old Tilly waited nearly a year before being purchased by Sealand of the Pacific, a marine park outside of Victoria, British Columbia.[138]

Once in Canada, Tilly was joined by two female killer whales named Haida and Nootka.[139] Haida quickly established herself as the dominant animal, with brand new Tilikum at the bottom of the social hierarchy.[140] Despite constant abuse by his peers, Tilly was forced into close quarters with them at night where he suffered multiple cuts and lacerations from their aggressive conduct.[141] Tilly performed at the park with the other two whales every hour on the hour, eight times a day, and seven days a week.[142] He quickly developed ulcers as a result of the stress from performing and being picked on by the older whales.[143] According to Eric Walters, a trainer at Sealand

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throughout our history. We know it inspires people, and we know that it allows us the best access to the whales, as well." *Id.*

[135] *See* Tim Zimmerman, *The Killer in the Pool*, OUTDOOR MAGAZINE (July 30, 2010), *http://www.outsideonline.com/outdoor-adventure/nature/The-Killer-in-the-Pool.html?page=all.*

[136] *Id.*

[137] *Id.*

[138] *Id.*

[139] *Id.*

[140] Zimmerman, *supra* note 136. Recall that orcas are matriarchal creatures and without his mother to defend him, Tilly was doomed to the lowest rung of the social totem pole. *Id.*

[141] *Id.*

[142] *Id.*

[143] *Id.*

during Tilly's tenure there, the park was run "like you would run [a] McDonald's. . . . It just can't be good for an animal that is so intelligent to do the same thing every day."[144] Walters worked regularly with the whales and said they each had their own personalities, but one stood out above the rest.[145] "Tilikum was our favorite," he said.[146] Trainers enjoyed his youthful and energetic personality, and Walters believed he was eager to learn saying, "[h]e was the one we all really liked to work with."[147] A frustrated Walters eventually left the park in 1989, saying "I [felt] that sooner or later someone [was] going to get seriously hurt."[148] Two years later, Walters's prediction came true. On February 20, 1991, twenty-year-old Keltie Byrne, a part-time trainer at Sealand slipped into the killer whale pool during a feeding session.[149] The ensuing commotion made it difficult to determine which whale initiated the attack, but bystanders do remember Byrne screaming as the whales began playing with her like a toy.[150] One whale bit Byrne and began dragging her underwater around the pool.[151] Trainers instantly went into emergency mode, trying to distract the whales so that Bryne, who was a champion swimmer, could make it to safety.[152] According to Karen McGee, a trainer on the scene, the whales would not allow Byrne to grab the life ring or be pulled to safety.[153] She said, "I heard her scream my name" and then she came up screaming one more time before she disappeared for the last time under the water.[154] It took several hours for a team to recover Byrne's corpse from the whales.[155] Her body only had ten tooth marks, primarily on

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[144] *Id.*

[145] Zimmerman, *supra* note 136.

[146] *Id.*

[147] *Id.*

[148] *Id.*

[149] Hoyt, *supra* note 62 at 34.

[150] *Id.*

[151] *Id.*

[152] *Id.*

[153] *Id.*

[154] *Tilly the Killer whale*, NOBLEBRUTE.COM, http://www.noblebrute.com/?p=201 (last visited Oct. 29, 2011).

[155] HOYT, *supra* note 62 at 34.

her thigh, with the cause of death being drowning.[156] "It was just a tragic accident," Alejandro Boltz, Sealand's manager, told reporters.[157] "I just cannot explain it."[158] After Byrne's death, the city of Victoria indicated that Sealand's lease would not be renewed.[159] As a result, in September 1991, Sealand's owner Bob Wright put all three whales up for sale.[160] Even before Sealand could publicly announce the sale option, SeaWorld prepared an application to the National Marine Fisheries Service (NMFS) to import the known trainer killers.[161] Tilikum and his tankmates were subsequently purchased by SeaWorld and they were dispersed among SeaWorld's three parks.[162] Nootka was sent to SeaWorld San Diego where she died shortly thereafter.[163] Haida moved to SeaWorld San Antonio where she died in 2001.[164] Tilikum was sent to Orlando, where he has been living ever since.[165] Keltie Byrne was not the only person to fall victim to Tilly prior to Dawn's death. On July 7, 1999, a twenty-seven-year-old vagrant named Daniel Dukes secretly remained in SeaWorld Orlando after it closed.[166] It is speculated that he wanted to swim with the whales and that he stripped down to his boxers before entering a tank occupied only by Tilikum.[167] Dukes was found dead the following morning draped over Tilly's back.[168] SeaWorld released statements immediately indicating that Dukes had died of hypothermia and that Tilly just played with him after he

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[156] *Id.*

[157] *Id.*

[158] *Id.*

[159] *Id.* at 36.

[160] HOYT, *supra* note 62 at 36.

[161] *Id.*

[162] *See* Stefan Jacobs, *Orca Captivity Statistics Page*, ORCA HOMEPAGE (Nov. 4, 2011) http://www.orcahome.de/orcastat.htm.

[163] *Id.*

[164] *Id.*

[165] *Id.*

[166] Matt Villano, *Corpse in Whale Tank Raises Questions About Captivity*, SUITE 101 BLOG (Jul. 16, 1999) http://www.suite101.com/article.cfm/whales/22753.

[167] *Id.*

[168] *Id.*

died.[169] However, Dukes's autopsy report indicates a more sinister cause of death.[170]

According to the Medical Examiner's report, Dukes died of drowning, not hypothermia.[171] Dukes's body was also covered in perimortem and postmortem contusions, abrasions, and lacerations.[172] There were no drugs in Dukes's system, contributing to the theory that Tilly drowned Dukes, and in the process left bite marks and bruises on the body while he scraped Dukes across the bottom of the tank.[173] Dukes suffered forty-three separate injuries shortly before he died, including: extensive abrasions on his nose, bruising on his eyes and chest, and a mild subarachnoid hemorrhage of the cerebellum.[174] SeaWorld's continued use of Tilly in the *Believe* and *Dine with Shamu* shows after the death of Daniel Dukes prompted more criticism from anti-captivity activists.[175] However, the show went on. Marine mammal experts do not believe that Dawn's death was a tragic mistake, as SeaWorld claims.[176] In fact, they believe Tilly made a conscious decision, for some unknown reason, to harm her.[177] Dawn's gruesome autopsy report seems to

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[169] *Id.*

[170] *See* MERLE REYES, M.D. & JUAN PEREZ-BERENGUER, M.D., DANIEL DUKES AUTOPSY REPORT, OFFICE OF THE MEDICAL EXAMINER DISTRICT NINE (Jul. 7, 1999).

[171] *Id.*

[172] *Id.*

[173] *Id.*

[174] *Id.*

[175] Zimmerman, *supra* note 123.

[176] Atchison, *supra* note 9. SeaWorld referred to Dawn's death repeatedly in press releases as an "incident." *Id.* SeaWorld also claimed that it would evaluate its procedures following Brancheau's death with the assistance of "other marine mammal facilities." *Id.* According to Kelly Flaherty Clark, SeaWorld Orlando's director of animal training, "Every safety protocol that we have failed . . . That's why we don't have our friend anymore, and that's why we are taking a step back." Zimmerman, *supra* note 123. SeaWorld did not invite killer whale biologists and behavioralists to assist in the investigation. Atchison, *supra* note 9. SeaWorld also told the press that they would implement new procedures they felt would assure the safety of training staff, implying that they and other marine mammal facilities are the sole experts in killer whale behavior and care. *See id.* *But see* Zimmerman, *supra* note 123 (discussing that Tilly's actions were volitional and not the product of random action).

[177] *Id.*

support this view.[178] According to Brancheau's autopsy, she died of "drowning and traumatic injuries."[179] Essentially, Brancheau was beaten to pieces: she was scalped, with the skin ripped off her head exposing her skull; her left arm was completely severed from her body; her left elbow and left knee were both dislocated; her ninth through eleventh ribs were broken; her liver was lacerated; her jaw was fractured; her seventh vertebra was splintered, leading to a hemorrhage and softening of her spinal cord; and she had 4 ml of fluid in her sinuses.[180] Tragically, many of these injuries occurred while Brancheau was still alive.[181] The horrendous damage that Dawn sustained in front of SeaWorld patrons begs the question: why keep such a dangerous animal? The answer may lie not in Tilly's value as a performer himself, but in his ability to produce future performers.

Perhaps Tilly's greatest purpose within the captive industry as a whole is as a "stud."[182] In fact, Tilikum is the most prolific sire in the history of orca captivity.[183] When Tilly was purchased from Sealand in 1991, he had an estimated value of $1.6 million.[184] Since that time he has fathered twenty-one calves, which are valued at millions of dollars per animal.[185] Altogether, Tilly has fathered more than 25% of the whales born in the history of captive breeding; making him practically priceless to an industry that is having a more

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[178] Dawn Brancheau Autopsy Report, *supra* note 6.

[179] *Id.*

[180] *Id.*

[181] *Id.*

[182] *See Breeding Orcas: Males-Captive*, CETACEAN COUSINS (May 13, 2011) http://cetacousin.bplaced.net/stat/orca/obreeding.html.

[183] *Id.*

[184] Zimmermann, *supra* note 123.

[185] *See Orca Births*, CETACEAN COUSINS, http://cetacousin.bplaced.net/stat/orca/obirth.html (last visited, Oct. 30, 2011). Seven of Tilly's calves were stillborn or died shortly after birth. *Id.* Thirteen of Tilly's calves survived to receive names and they include: Kyuquot, Nyar, Taku, Unna, Sumar, Tuar, Nakai, Kohana, Ikaika, Tekoa, Skyla, Malia, and Sakari. *Id.* Tilly's most recent offspring, a male, was born to Katina on October 9, 2010 and has been named Makiao. *Id.*

difficult time acquiring wild-caught animals.[186] As a result, Tilikum is insured for roughly $5 million.[187]

> Since Tilikum killed Dawn Brancheau his life has changed drastically, despite SeaWorld's claims to the contrary.[188] SeaWorld's curator of animal training, Kelly Flaherty Clark, says that "Tilikum's day continued to be filled with variety and stimulation, including time with other whales, participating in training, husbandry, exercise and playtime sessions and the opportunity to breed."[189] However, the OrcaProject, a group of volunteers that support Tilly's retirement and eventual freedom, say this is not the case.[190] Members of the OrcaProject visited SeaWorld Orlando in the beginning of September 2010 to check on Tilly and see if SeaWorld was living up to their commitment to his continued care.[191] They took multiple photographs and notes of Tilly's care over the course of two random sequential days.[192] Their findings, if accurate, tell a

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[186] *Id.* Tilly has sired 21/84 captive calves born around the world. *Id.*

[187] *See* The Early Show, *SeaWorld Called Best Place for Tilikum*, CBS (Feb. 27, 2010) http://www.cbsnews.com/stories/2010/02/27/earlyshow/saturday/main6249874.shtml.

[188] *See* Tilikum's Lonely Life After Dawn, *supra* note 8 (Tilly remains mostly isolated from people and other whales); *but see* SeaWorld Staff, *An Update on Tilikum*, SEA INSIDE (March 19, 2010) http://seaworldparksblog.com.staging804.mindcomet.net/update-tilikum ("In most respects Tilikum's day is not much different at all").

[189] *Id.* SeaWorld says that Tilly receives the highest standard of care and was never punished for killing Brancheau as he would not understand. *Id.* Flaherty Clark also describes Tilly's interaction with people, saying he is no longer touched by a human hand and is instead shot with a powerful hose to rub down his skin. *Id.* Tilly gets to play with ice or toys filled with fish and a giant plastic frizbee. *Id.* He also watches trainers paint pictures through the underwater viewing area. *Id.* SeaWorld continues to represent that he is still allowed to socialize with other whales and that he is "content." *Id.*

[190] Tilikum's Lonely Life After Dawn, *supra* note 8.

[191] *Id.*

[192] *Id.*

different story of Tilly's life after Dawn.[193] They say that Tilly was confined to a single tank all day long without companionship of any other animal, stating, "The only constant companions [Tilly] has is a couple of security guards who are stationed poolside – as well as the trainers sitting in the lifeguard stand watching over him."[194] According to the OrcaProject, Tilly lay motionless in the pool for the majority of the day under the hot Florida sun without any access to shade.[195] Tilly's most substantial change in behavior came during the shows, where he moved to the gate when the music began and watched the show going on without him.[196] OrcaProject volunteers asked trainers if Tilly had access to female contact to breed and they responded that he was kept away from females at all times because "you know how frisky males can be."[197] At noon Tilly was hosed down by trainers for about three minutes and then given some fish.[198] Colleen Gorman of the OrcaProject said that Tilly remained motionless for over three hours at a time, which is abnormal behavior for a killer whale.[199] She brought this to a trainer's attention, who said his behavior was normal and attributed it to the fact that he was a transient... which is completely untrue considering the behavior is abnormal for both residents and transients.[200] Gorman claimed on both days of her visit, Tilly did not have one toy in the water with him and therefore barely moved around.[201] On the second day of the visit, he was alone from 9 a.m. until 7 p.m.[202]

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[193] *Id.*

[194] *Id.*

[195] Tilikum's Lonely Life After Dawn, *supra* note 8.

[196] *Id.*

[197] *Id.*

[198] *Id.*

[199] *Id.*

[200] Tilikum's Lonely Life After Dawn, *supra* note 8. It is unknown whether Tilly came from a resident or transient pod in Iceland. *Id.*

[201] *Id.*

[202] *Id.*

According to Gorman, "The word that kept coming to my mind and out of my mouth as I sat there watching him without pause was... pathetic."[203] Gorman is now flagged when she enters the park and is not allowed to remain near Tilly's tank throughout the day.[204] Tilly's continued isolation and lack of contact or stimulation has led experts like Naomi Rose, Ph.D. of the Human Society to label Tilikum the "loneliest whale in the world."[205] Dr. Rose and her colleagues believe that Tilly's continued isolation and lack of stimulation, save for breeding purposes, will make him even more neurotic and dangerous as time goes on.[206] In an interview for Human Society International, Dr. Rose claimed "I know Tilikum knows something is wrong, something is different, something is not right. The very foundation of captivity is that the trainers become the whales' social partners. It's completely artificial...I worry about him a lot."[207] While it is impossible to know an animal's motivations for certain, understanding killer whale biology and sociology helps scientists maintain educated guesses as to what spurned Tilly's attacks.[208] Some animal behavioralists believe that Dawn's death could have been a result of Tilly's raging roller-coaster hormones: overstimulation during shows and mating paired with his complete lack of stimulation when he is confined to a tank alone.[209]

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[203] *Id.*

[204] *Id.*

[205] *See* Humane Society of the United States, *The Loneliest Whale in the World*, YOUTUBE (May 5, 2010) http://www.youtube.com/watch?v=AFmB99yDoNE.

[206] *Id.*

[207] *Id.*

[208] Jennifer Viegas, *Killer Whale Trainer Death Tied to Mating, Isloation: Boredom and Raging Hormones may have Contributed to the Tragic Attack by a SeaWorld Killer Whale*, DISCOVERY NEWS (Feb. 25, 2010) http://news.discovery.com/animals/killer-whale-attack-explanation.html.

[209] *Id.*

While some commentators look to *why* Tilly attacked, others wonder if *Dawn's* own behavior had anything to do with her death as SeaWorld has alleged.[210] Despite the knowledge that Tilly could actually mount an attack on his own when presented the opportunity, SeaWorld's attitude toward him became more and more lenient leading up to Dawn's death.[211]

b. Did Dawn Breach Protocol?

As a result of Tilly's dangerous past, SeaWorld has never allowed trainers to perform in the water with him, although they were allowed to be in close contact.[212] According to Samantha Berg, a trainer at SeaWorld Orlando from 1990-1993, park management portrayed Tilly as only having played a passive role in Byrne's death.[213] She said that her supervisors told her that Tilly did not actually kill the trainer, but that he refused to release her dead body after the other whales killed her because he thought she was a toy.[214] According to John Jett, another past SeaWorld trainer, "When [Tilly] arrived [trainers] were given only gross safety instructions, which included: only senior trainers could work with him; no water work; wetsuits must be zipped up when around him; no dangling objects (except training whistles); [and trainers] must have a spotter when working with him."[215] Jett claims that information about why Tilly needed to be handled differently was incomplete and he was often unaware of the reasons behind SeaWorld's training policies or reasons for changing them.[216] He recalls that when "accidents"

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[210] *See* Tim Zimmerman, *Did Dawn Brancheau Make A Mistake, or Was SeaWorld Taking Risks with Tilikum?*, OUTDOOR MAGAZINE BLOG (Sept. 16, 2010), http://timzimmermann.com/2010/09/16/did-dawn-brancheau-make-a-mistake-or-was-seaworld-taking-risks-with-tilikum/. Former SeaWorld head trainer Thad Lacinak said that Dawn made a mistake and she should have never put herself in such a vulnerable position with Tilikum. *Id.*

[211] *Id.*

[212] *Id.*

[213] *Id.*

[214] *Id.*

[215] Zimmermann, *supra* note 211.

[216] *Id.* Jett found it particularly disturbing that, during his time as a trainer at SeaWorld, he was led to believe that Byrne "fell into the pool, became hypothermic and the whales played with her." *Id.* He said he also worked closely

occurred, which is the park's way of referring to attacks, trainers were banned from entering the water with the whales for a short period of time.[217] However, this ban never lasted and trainers were often left in the dark as to the specifics of the accident that caused the temporary change in policy.[218] Jett believes the reason for such secrecy is twofold: (1) management does not want "trainers questioning the overall safety of their [training] program;" and (2) management likely assumed that if the trainers were unaware of the true dangers of the job, then they "wouldn't be inclined to demand more than near-minimum wage earnings."[219]

Immediately before Tilikum grabbed Dawn, she was laying on a slide out, patting his head and feeding him fish after a successful, but long, *Dine with Shamu* show.[220] According to Thad Lacinak, a former SeaWorld head-trainer and current spokesperson for SeaWorld, this action alone would have breached protocol when he worked at SeaWorld, up until 2008.[221] He also says that her long ponytail would not have been allowed near Tilly, as it would be easy for him to grab and yank her into the pool.[222] This would seem to indicate that Dawn assumed the risk of working irresponsibly with Tilly and an attack of that magnitude was simply an isolated event that would not have occurred had she followed the rules.[223] However, according to Tim Zimmerman, photographs of the *Believe* show featuring Tilly tell an entirely different story.[224] Zimmerman analyzed multiple pictures taken of Tilly during shows for many months and even years prior to Dawn's death, and they show actions

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with Nootka, who participated in the Byrne attack, and was completely unaware that she was involved. *Id.* He believes the lack of information or the half-truths about negative interactions with trainers actually made working with the whales even more dangerous than it inherently was. *Id.*

[217] *Id.*

[218] *Id.*

[219] Zimmermann, *supra* note 211.

[220] *Id.*

[221] *Id.*

[222] *Id.*

[223] *Id.*

[224] Zimmermann, *supra* note 211.

strikingly similar to Dawn's on the day she was killed.[225] In these photos, a trainer (who may even be Dawn herself) is lying on a slide out patting Tilly's head and even kissing his tongue while her long ponytail dangles behind her.[226] According to Zimmerman, while such actions may or may not be technical violations of SeaWorld protocols, "it is clear that the position Dawn took with Tilikum on the day she died was not an aberration."[227] Presumably, getting in vulnerable positions with Tilly had been occurring during the shows for a number of years with management's blessing or at the very least, tolerance.[228] While Lacinak continues to claim it was imperative that trainers not get too comfortable with the animals, it seems that management was comfortable enough with Tilly to allow dangerous practices without informing trainers of the now seemingly obvious dangers.[229]

Dawn's death resulted in an official investigation by the Occupational Health and Safety Administration to determine whether SeaWorld and its employee policies were, in fact, contributing factors in Dawn's death.

III. OSHA'S INVOLVEMENT AND ITS IMPLICATIONS

OSHA was created through the Occupational Safety and Health Act of 1970 and enforces national standards in order to ensure safe and healthy working conditions.[230] While OSHA does not specifically oversee employee safety where marine mammals, like killer whales, are involved, it is still OSHA's responsibility to inspect parks like SeaWorld to ensure they are operating safely for park employees.[231] According to section 18 of the Occupational Safety and Health Act, individual states are encouraged to develop and

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[225] *Id.* *See infra* App. A photographs fourteen, fifteen, and *compare* photograph sixteen.

[226] *See infra* App. A photographs fourteen and fifteen.

[227] Zimmermann, *supra* note 211.

[228] *Id.*

[229] *Id.*

[230] OSHA, *About OSHA*, U.S. DEP'T OF LABOR (2011) http://www.osha.gov/about.html.

[231] *Id.*

operate their own health and safety programs.[232] OSHA approves and monitors these plans.[233] Twenty-six of the fifty states operate OSHA-approved state plans for occupational safety.[234] Of the three states that are home to marine parks housing killer whales (California, Florida, and Texas), only California has an OSHA-approved plan.[235]

Dawn Breacheau and SeaWorld made headlines again in August 2010, when OSHA levied the strongest citation against SeaWorld for willfully subjecting trainers to life-threatening working conditions.[236] Therefore, OSHA's incident reports and fines must be examined in order to fully understand the legal complexity surrounding Dawn Brancheau's death and how killer whale husbandry reaches beyond the animals themselves.

A. Sea World San Diego Incident Report of November 29, 2006

SeaWorld's citation for unsafe working conditions in the wake of Dawn's death was not the first time OSHA inspected and reprimanded SeaWorld. Perhaps one of the most revealing inspections occurred at SeaWorld San Diego after a killer whale trainer named Kenneth Peters was seriously injured by an orca named Kasatka during a show.[237] The State of California, enforcing OSHA regulations, issued a state report regarding Peters' injuries and noted serious risks to employee safety.[238] According to the California report, Peters suffered puncture wounds and a broken foot when he

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[232] OSHA, *State Occupational Safety and Health Plans*, U.S. DEP'T LABOR (2011) http://www.osha.gov/dcsp/osp/index.html.

[233] *Id.*

[234] *Id.*

[235] *Id.*

[236] Associated Press, *SeaWorld Fined for Whale Trainer's Death*, NDTV (Aug. 24, 2010) http://www.ndtv.com/article/world/seaworld-fined-for-whale-trainers-death-46906.

[237] *See* DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, STATE OF CAL. DEPT. OF INDUS. RELATIONS ("CAL/OSHA"), INSPECTION NO. 307035774, NARRATIVE SUMMARY (Nov. 29, 2006) *available at* http://www.orcanetwork.org/captivity/070302seaworldreport.pdf [hereineafter Narrative Summary of SeaWorld Inspection].

[238] *Id.*

was "bit[ten] and dragged underwater by a killer whale during a regular performance."[239]

The State of California's report not only detailed the attack itself, but the inner workings of SeaWorld training staff and the potential risks from continued "waterwork."[240] At the time, there were twenty-five trainers on staff authorized to work with the killer whales.[241] All but two of these trainers were approved to enter the water with the whales.[242] According to SeaWorld trainer protocol, there are "wet" and "dry" behaviors that are performed with the whales, with wet behaviors requiring the presence of one or more "spotters."[243] Backstage, there is an emergency call back device, which "sends out an audible underwater signal designed to bring the whale back to the main stage as a back-up [if] the other signals used by the trainers [fail]."[244] One trainer is required to be on the call back device at all times during any water work.[245] SeaWorld also ensures that trainers have access to an emergency phone, emergency alarm button, and a scuba locker.[246]

The report also detailed the number of killer whales at the facility, their ages at the time, their sizes, and their histories, including whether they were captured from the wild or captive-born.[247] At the time, SeaWorld San Diego housed seven killer whales: Corky II, Kasatka, Ulises, Orkid, Sumar, Nakai, and Kalia.[248] The report specified that Kasatka was the dominant female of the group and that she was twenty-eight years old at the time of the attack.[249] According to their records, Kasatka was captured in Iceland when she was approximately one year old, was seventeen feet long and approximately 7,000 lbs.[250] At the time, SeaWorld

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[239] *Id.* at 1.
[240] *Id.*
[241] *Id.* at 2.
[242] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 2.
[243] *Id.*
[244] *Id.*
[245] *Id.*
[246] *Id.*
[247] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 3-4.
[248] *Id.*
[249] *Id.* at 4.
[250] *Id.*

protocol was to keep the calves with their mothers until they were at least weaned, which was between nine months and one year old.[251] Kasataka had two of her three offspring with her at the park: Nakai and Kalia.[252] The report noted that Kalia, who was nearly two at the time, was often kept with her mother and separated for short times in order to "give her mother some time away from the calf."[253] It was also mentioned that the trainers would vary the social interactions and living arrangements of the animals in order to "prevent the whales from becoming accustomed to a routine which can result in boredom."[254]

The report then discussed the biology of killer whales, recognizing that it was important to understand their natural behaviors and lives in captivity in order to properly assess the risk their captivity poses to humans interacting with them.[255] The report described a brief physiological and social background of the animals including average size, average life expectancy, vocalizations, physical displays, social groupings, and hunting behaviors.[256] The California OSHA report clarified that there have been no documented attacks on humans by killer whales in the wild, but there have been some unsubstantiated reports of killer whales grabbing the flippers of divers and behaving aggressively toward surfers.[257]

The California report also discussed training, saying that the "first step in controlling orcas in captivity is to provide an enriching, stress free environment . . . [and] the second step . . . is through training."[258] Some stressors the report listed included: space issues, the six to seven shows per day, aggression between the animals, and the demands of young calves.[259] Training involves positive reinforcement with "redirection" when the animal goes "off behavior."[260] The trainers "rely on being able to recognize

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[251] *Id.*

[252] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 4.

[253] *Id.*

[254] *Id.*

[255] *Id.* at 4-5.

[256] *Id.*

[257] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 4-5.

[258] *Id.* at 5-7.

[259] *Id.* at 6-7.

[260] *Id.*

behavioral precursors that tell them an orca is about to go off behavior . . . [and] use visual cues in order to evaluate the orca's mood and whether or not they should get in the water with the orca."[261] However, as the report noted, this method does not always work as their mood and intentions are often not readily apparent.[262]

Of particular interest to the inspectors, was an incident that occurred just three weeks prior to Peters's injuries.[263] This time, a trainer named Brian Rokeach was injured by Orkid during a show when she grabbed him by the ankle and pushed him to the bottom of the pool.[264] At the time there were no trainers manning the audio recall remote device, and so an assisting trainer had to run backstage when Orkid did not respond to trainer cues to return to the stage.[265] After at least three failed attempts to use the audio recall device, Orkid became distracted and Rokeach was able to exit the water of his own power.[266] According to the report, Orkid was known to be "opportunistic" and had been involved in multiple incidents where she grabbed a trainer's foot and would not let go on command.[267] There were "no precursors or other reasons given as to why Orkid would go off behavior" when she grabbed Rokeach.[268] SeaWorld attributed Orkid's actions to the inexperience of Rokeach and then instituted a policy where five trainers needed to be present during a show, instead of four, to better man the emergency call back device.[269]

Peters, however, had worked with Kasatka since 1993 and was an employee at SeaWorld since 1988.[270] Therefore, Kasatka's attack on him could not be attributed to simple inexperience.[271] According to Peters, the show was going flawlessly until he heard Kalia, Kasatka's young daughter, vocalizing in what sounded like a distress

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[261] *Id.* at 7.

[262] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 7.

[263] *Id.* at 9.

[264] *Id.*

[265] *Id.*

[266] *Id.*

[267] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 9.

[268] *Id.*

[269] *Id.*

[270] *Id.*

[271] *Id.*

call from a separated pool.[272] At that moment, Kasatka grabbed both his feet and held him underwater for several seconds.[273] Once she brought him to the surface and then pushed him back down again, the other trainers realized something was wrong and began calling Kasatka by slapping the water and using the call device to no avail.[274] When it became apparent that Kasatka was toying with Peters and would not follow any commands, the trainers called 911 and evacuated the audience.[275] Kasatka continued to dunk Peters under the water and proceeded to keep him in the center of the pool where no net or pole could reach him.[276] She would release him at times, only to grab him again and continue dunking him underwater.[277] When she finally relented and allowed Peters to get away, he came out of the water, yelling "She didn't show me any precursors. She didn't tell me, she didn't show me."[278] When interviewed, Peters said he did not want to get in the water with Kasatka again.[279]

California's Department of Labor noted four main safety issues that put killer whale trainers at risk: the sheer size of the orca; the carnivorous and intelligent nature of orcas; the fact that water is a foreign environment to humans; and the fact that orcas are still wild (unlike horses and dogs, orcas have not been domesticated). According to the report, "This is a marine park with a goal of conservation and education, but it is also in the business of entertaining. Shamu the killer whale has always been at the forefront of their marketing and advertising and is probably the main reason why people visit the park."[280] As a result of the need to entertain and attract guests, SeaWorld has devised bigger, more spectacular, and ultimately more dangerous shows.[281]

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[272] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 11.
[273] *Id.*
[274] *Id.*
[275] *Id.* at 12.
[276] *Id.*
[277] Narrative Summary of SeaWorld inspection, *supra* note 238, at 12.
[278] *Id.*
[279] *Id.* at 13.
[280] *Id.* at 14.
[281] *Id.*

According to the report's findings, SeaWorld had a well-devised safety plan that meets all the basic OSHA requirements.[282] SeaWorld also developed emergency procedures, a wide array of emergency devices and responses, and had trained their personnel in those procedures.[283] The trainers were all physically fit and were monitored by at least one other trainer at all times when working with the whales.[284] However, these protocols are no match for the strength, cunning, and size of a killer whale.[285]

Ultimately, a serious accident-related violation could not be established, but the California report concluded with an ominous prediction, saying the following:

The contributing factors to the accident, in the simplest of terms, is that *swimming with captive orcas is inherently dangerous and if someone hasn't been killed already it is only a matter of time before it does happen*. . . . The orca is capable of tearing off an arm, a leg, or a head, and if that is against its nature it could easily drown a human or trap it in the cold waters of the tank until the human expires from hypothermia. Even if the animal does not have the intent to kill, the bulk and weight of its body is enough to smash a person against the sides of the pool, knocking them unconscious or crushing them to death . . . . [SeaWorld's] own emergency plan acknowledges this in the statement: "Due to the nature of the facilities and the unpredictability of the animals it is not possible to establish a definite list of procedures to be followed in all events." The two basic and fundamental behaviors that they train the orcas on, to be gentle and their fail safe "return to the stage" behaviors, are probably two of the most important tools at their disposal to keep the trainers from harm should an orca go "off behavior." However in both instances in November these basic and fundamental commands failed.[286]

SeaWorld was infuriated by the report and contacted Cal/OSHA demanding that it retract the conclusion as well as all of the individual information pertaining to their killer whales, and the sensitive background information regarding previous attacks on

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[282] Narrative Summary of SeaWorld Inspection, *supra* note 238, at 14.

[283] *Id.*

[284] *Id.*

[285] *Id.*

[286] *Id.* at 17 (emphasis added).

trainers.[287] Cal/OSHA apologized for its statements in a press release following the issuance of the report, saying "Cal/OSHA realized its error when it met with Sea World [sic] officials."[288] Ultimately, Cal/OSHA deferred to SeaWorld's expertise on animal behavior saying "many of the statements made in the 'Narrative Summary' require expertise in animal behavior, which Cal/OSHA does not have."[289] Cal/OSHA reissued its report on the SeaWorld incidents after meeting with SeaWorld executives, eliminating ten pages of its original eighteen page report.[290] Specifically, it removed all anatomical, behavioral, and sociological history of killer whales; any information discussing the animals as individuals; the history of captivity; training and husbandry methods used at SeaWorld; and all critical comments in the conclusion.[291]

Despite Cal/OSHA's apology and eventual pro-forma retraction of its original investigative report, its prediction that someone would eventually be killed came true nearly exactly two years later, when Dawn Brancheau entered the water with Tilikum for the last time.

B. Sea World Orlando Incident Report of February 24, 2010

The State of Florida chooses not to independently enforce OSHA regulations and therefore does not issue a similar report to California.[292] However, OSHA did release its official violation summary and fines regarding the Brancheau incident on August 23, 2010.[293] Of the three citations SeaWorld received, the second—and most serious—violation came with respect to the park's handling of

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[287] *See* News Release, Dean Fryer, Cal. Dep't of Indus. Relations, Cal/OSHA Revisits its Reports on SeaWorld Investigation(March 2, 2007) (on file with author).

[288] *Id.*

[289] *Id.*

[290] The author compared the two reports.

[291] The author compared the two reports.

[292] *See* OSHA, *supra* note 233.

[293] Leslie L. Grove, Occupational Safety and Health Admin., *Citation and Notification of Penalty*, OCCUPATIONAL SAFETY AND HEALTH ADMINSITRATION (Aug. 23, 2010), http://www.osha.gov/dep/citations/seaworld-citation-notification-of-penalty.pdf.

Tilikum.[294] According to the report, SeaWorld violated Section 5(a)(1) of the Occupational Safety and Health Act by failing to furnish "employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees."[295]

Specifically, Tilikum was known to have aggressive tendencies and was involved in two prior human deaths.[296] SeaWorld was held to have willfully endangered its trainers by allowing them to have unprotected contact with Tilikum while conducting "drywork" performances on pool ledges, slideouts, and platforms.[297] As a result, OSHA fined SeaWorld the maximum of $70,000 and prohibited trainers from entering the water with any killer whale at any SeaWorld park.[298] OSHA further demanded that SeaWorld install physical barriers to provide additional protection to trainers when working with such dangerous animals.[299] As of September 2011, trainers are still not entering the water with killer whales at any time and the park is working on a decking and air supply system that could be used in contingency plans.[300]

However, SeaWorld is fighting the citation, saying OSHA's allegations were "unfounded" and that the "safety of [its] guests and employees and the welfare of [its] animals are core values for SeaWorld and areas in which [it does] not compromise."[301] SeaWorld lashed out in a press release by claiming that OSHA's allegations were unsupported by "any evidence or precedent and reflect a fundamental lack of understanding of the safety requirements associated with marine mammal care."[302] Essentially, because SeaWorld is experienced with the animals and their care, it

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[294] *Id.* at 5.

[295] *Id.*

[296] *Id.*

[297] *Id.*

[298] Grove, *supra* note 293, at 5 SeaWorld was fined $70,000 for the willful citation and an additional $5,000 for the other citations, totaling $75,000. *Id.*

[299] *Id.*

[300] *See* Garcia, *supra* note 135.

[301] News Release, SeaWorld Parks and Entm't, SeaWorld Parks & Entertainment Will Contest OSHA Citation (Aug. 23, 2010) (on file with author).

[302] *Id.*

knows best how to regulate itself.[303] SeaWorld claimed that in order to give the animals "humane care," they must have trainers interact closely with them.[304] SeaWorld's official opinion was summed up by pointing out "[t]he fact that there have been so few incidents over more than two million separate interactions with killer whales is evidence not just of SeaWorld's commitment to safety, but to the success of that training and the skill and professionalism of our staff."[305] SeaWorld is still in the process of appealing the citation.

Dawn's tragic death and OSHA's subsequent report spurred not only media coverage, but also a congressional evaluation of the policies of facilities that house killer whales.[306] It is essential that lawmakers reevaluate the standards of care for aquariums housing killer whales across the country in order to decrease the likelihood of dangerous interactions with humans, especially in light of the Occupational Safety and Health Administration's (OSHA) findings. It is the position of this article that two main groups of laws, which include the Marine Mammal Protection Act and the Animal Welfare Act, must be reevaluated in order to better protect trainers from deadly attacks and the animals themselves from potentially inhumane treatment that could cause another deadly attack.

IV. The Marine Mammal Protection Act and Its Enforcement

A. History, Current Applicable Law, and Its Enforcement through NMFS & NOAA

The Marine Mammal Protection Act (MMPA) was enacted in 1972 upon Congress's finding that certain stocks of marine mammals

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[303] *Id.*

[304] *Id.*

[305] *Id.* The interaction/attack ratio alluded to does not represent the ratio of individual whales that have attacked trainers. This statistic simply glosses over the fact that a high percentage of individual captive killer whales have been involved in serious injuries to their trainers.

[306] *See Oversight Hearing on Marine Mammals in Captivity: What Constitutes Meaningful Public Education?*, Before the Subcomm. on Insular Affairs, Oceans and Wildlife of the H. Comm. on Natural Resources, 111th Cong. (Apr. 27, 2010), *available at* http://resources.edgeboss.net/wmedia/resources/111/2010_04_27_oceans.wvx [hereinafter Congressional Oversight Hearing April 2010].

were in danger of extinction or depletion as a result of human activity.[307] The goal of the MMPA is to protect marine mammals from continued depletion and promote "optimum sustainable population[s while] keeping in mind the carrying capacity of the habitat."[308] The MMPA imposes a general moratorium on the taking of marine mammals, including killer whales.[309] According to the act, the term "take" means to "harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill."[310] One exception to this moratorium authorizes permits "taking . . . for purposes of scientific research [and] public display."[311]

Under the MMPA's 1972 framework, the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) was responsible for regulating captive care requirements as well as the issuance of Protected Species Exemption Permits to compliant marine parks.[312] However, the 1994 MMPA amendments eliminated the NMFS' jurisdiction over captive care and maintenance of marine mammals held for public display.[313] This responsibility was shifted to its current regulator, the Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), and is under the exclusive jurisdiction of the Animal Welfare Act (AWA).[314] Despite this captive marine mammal regime change, the NMFS still retains jurisdiction over marine mammals captured from the wild and first-time imports of marine mammals into the United States.[315]

There are currently three basic criteria that must be met before the NMFS will issue a permit for a marine mammal to be captured

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[307] 16 U.S.C. § 1361(1) (2006).

[308] *Id.* § 1361(6).

[309] *Id.* § 1371(a).

[310] *Id.* § 1362(13).

[311] *Id.* § 1371(a)(1).

[312] 50 C.F.R. § 216 (2010).

[313] *See* Jamie M. Woolsey, *Detailed Discussion of Dolphins Under the MMPA*, ANIMAL LEGAL HISTORICAL CENTER, MICHIGAN STATE UNIVERSITY, DETROIT COLLEGE OF LAW (2002), http://www.animallaw.info/articles/ddusdolphins.htm#dolphinscaptivity.

[314] *Id.*

[315] *Id.*

and held for public display.[316] These criteria require the permit-seeking facility to: (1) offer "a program for education or conservation purposes that is based on professionally recognized standards of the public display community;" (2) be registered or hold a license under 7 U.S.C. § 2131 of the AWA; and (3) maintain facilities for the public display of marine mammals that are "open to the public on a regularly scheduled basis and that access to such facilities is not limited or restricted other than by charging of an admission fee."[317] Of the three basic criteria the NMFS must evaluate, the most controversial is the first.[318]

B. Living to Educate You: Do Parks that Display Marine Mammals Educate the Public?

According to Madeleine Z. Bordallo, Chairwoman of the United States House of Representatives' Subcommittee on Insular Affairs, Oceans, and Wildlife, "In the [time since the 1994 amendments to the MMPA], the NMFS has not developed the regulations that would spell out their criteria for issuing such permits . . . and for modifying, suspending, or revoking a take or import permit."[319] She criticized the NMFS's management of the permitting process, saying that the NMFS "apparently has no process for ongoing evaluation of education and conservation programs at public display facilities to ensure that they are meeting . . . professional standards."[320]

Chairwoman Bordallo met with her subcommittee, representatives from various applicable scientific fields, advocacy groups, the captive industry, and the NMFS on April 27, 2010, in order to investigate the value of marine park education in the wake of Dawn Brancheau's death.[321]

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[316] 16 U.S.C. § 1374(c)(2)(A) (2006).

[317] *Id.*

[318] Congressional Oversight Hearing April 2010, *supra* note 306.

[319] *Id.* (statement of Madeline Z. Bordollo, Chairwoman of the United States House of Representatives' Subcommittee on Insular Affairs, Oceans and Wildlife).

[320] *Id.*

[321] *Id.*

Eric Schwaab, the Assistant Administrator of the NMFS testified before the subcommittee that the main purpose of the NMFS under the MMPA is to "ensure that marine mammal species and stocks under [its] jurisdiction can recover to, or be maintained at, levels that ensure they continue to act as significant functioning elements of the ecosystems of which they are a part [of]."[322] Schwaab went on to explain that the NMFS issues permits based upon what appears to be a three prong "meaningful education" test and that once the permit is issued, the NMFS takes a "laissez faire" approach to the maintenance of such permits in favor of allowing APHIS to make sure that the park lives up to basic care standards.[323] He claimed that "[t]he MMPA criteria for issuance of permits to take or import . . . marine mammals for public display states that the applicant must meet the 'professionally recognized standards of the public display community.' Thus, it is those *industry* standards for education and conservation programs, not federal standards, that are applicable."[324] Essentially, the NMFS defers to organizations like the Association of Zoos and Aquariums (AZA) and the Alliance of Marine Mammal Parks and Aquariums (AMMPA), which are made up of facilities that house marine mammals like killer whales, to self-regulate by setting the education and conservation standards for which they are to abide by.[325] Therefore, the AZA and AMMPA set the scheme for the first, and most open-ended, prong of the "meaningful education test" and the NMFS issues permits to these facilities based upon their compliance with their own rules.[326] Schwaab admitted in his testimony that the NMFS "does not routinely re-evaluate the education and conservation programs of facilities holding marine mammals after permit issuance."[327] The only time such facilities are re-evaluated is when they apply for a permit to import or capture a new animal for public display.[328] This

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[322] *Id.* (statement of Eric Schwaab, Assistant Administrator of the United States National Marine Fisheries Service) (emphasis added). The "Meaningful Education" Test was named by the author.

[323] Congressional Oversight Hearing April 2010, *supra* note 306.

[324] *Id.*

[325] *Id.*

[326] *Id.*

[327] *Id.*

[328] Congressional Oversight Hearing April 2010, *supra* note 306.

approach was criticized by nearly every expert in attendance at the hearing, with the exception of those representing the marine parks themselves.

1. Expert Opinions

Many experts were on hand at the Subcommittee on Insular Affairs, Oceans, and Wildlife hearing to voice their opinions on what is necessary to develop a meaningful education and conservation program. One such authority was Lori Marino, Ph.D., a leader in the Cetacean Neuroscience and Behavioral Biology field from Emory University. According to Dr. Marino, for a program to meet even minimal standards for education and conservation, it must meet two reasonable criteria: "First, the information provided about the animals on display and their natural history, biology, behavior and conservation status must be accurate. Second, there must be evidence, based on valid outcome measures, that visits to these facilities serve an educational or conservation purpose (emphases omitted)."[329] Dr. Marino formed her opinion as to whether her criterion was met by evaluating the information provided by the websites of both SeaWorld and the AMMPA.[330] She found that much of the information obtained through both organizations was patently false, or grossly misleading.[331] One specific problem that Dr. Marino had with the sites was the information referring to dolphin brain function and relative intelligence, saying:

On the one hand, the Alliance seems to suggest that the intelligence of dolphins is high enough to make them suitable 'subjects' in various human-driven activities, while, on the other hand, it downplays that same intelligence so as to undermine concerns about keeping these intelligent animals in captivity. Like the last bowl of porridge in the Goldilocks fairytale[,] dolphin intelligence is *just right*.[332]

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[329] *Id.* (statement of Lori Marino, Ph.D., Neuroscience and Behavioral Biology).

[330] *Id.*

[331] *Id.*

[332] *Id.*

Some of Dr. Marino's more disturbing findings were related to both sites juxtapositions between captive and wild animals.[333] She found that the information was biased to make guests believe the "wild" was a dangerous and deadly place for dolphins and that they lived longer and had fewer health-related problems in captivity, something objective research suggests is false.[334]

Dr. Marino's second criterion, that educational value must be measurable, was also failed by the current marine park educational scheme.[335] Dr. Marino considered a poll posted on the AMMPA's website to evaluate this prong.[336] According to the site:

A 1998 [it was actually 1995] Roper Starch poll . . . provides clear evidence that programs at Alliance member marine life parks, aquariums, and zoos are educational and provide the public with a heightened appreciation of the importance of conserving marine mammals. Ninety-four (94%) percent of the park visitors interviewed for the poll said, "I learned a great deal about marine mammals today. Almost everyone (97%) interviewed said their experience with living marine mammals had an impact on their appreciation and knowledge of the animals.[337]

The AMMPA also cited a Harris Poll conducted in 2005 that showed 97% of the respondents agree that marine life parks, aquariums, and zoos play an important role in educating the public about marine mammals they might not otherwise have the chance to see.[338] Dr. Marino says these polls, while revealing to a degree, simply measure public attitudes and feelings toward the facilities, not what the visitors actually learned.[339] Neither poll asked respondents about specific knowledge they gained, or what specific conservation actions they would undertake after visiting the parks.[340] Dr. Marino summed up her basic conclusions with the following statement to the subcommittee:

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[333] Congressional Oversight Hearing April 2010, *supra* note 306.

[334] *Id.*

[335] *Id.* (statement of Lori Marino, Ph.D., Neuroscience and Behavioral Biology).

[336] *Id.*

[337] *Id.*

[338] Congressional Oversight Hearing April 2010, *supra* note 306.

[339] *Id.*

[340] *Id.*

A review of a subset of the online materials published by the Alliance and SeaWorld shows that much of the information provided to the public is either misleading or incorrect. And the analyses of the visitor research studies . . . demonstrates that, to date, there is no compelling evidence that visiting zoos and aquariums is an authentic educational experience. Therefore, neither of the two criteria are met. It is difficult to understand how claims about effective education can be made when there is so little evidence to support them. Given that the captivity community has clearly not met minimal education standards it is urgent that the NMFS work to ensure compliance with [basic educational standards].[341]

According to Dr. Peter Corkeron, a visiting fellow at the Cornell Lab of Ornithology's Bioacoustics Research Program, "Prior to the 1950s . . . [k]iller whales were generally viewed as Nasties. . . . Now, US citizens view [them] as Lovelies."[342] He believes it is likely that parks like SeaWorld have made headway in promoting a positive image for marine mammals like orcas, making them "'ambassadors' for their species."[343] However, he admitted that there appears to be a disconnect between "people loving dolphins, to then making the personal choices, and seeking the societal changes, that are needed to ensure healthy marine environments."[344]

Another expert at the hearing, Dr. Naomi Rose of the Humane Society International, expressed concern over a regulatory scheme that allows the entities being regulated, such as SeaWorld, to set the standards by which they are held.[345] She also found the regulatory split between the MMPA and the AWA enforcement through different cabinet departments troubling because it causes confusion between agencies like the NMFS and APHIS as to which is responsible for what.[346] She believes this allows members of both agencies to point a finger at the other and essentially avoid their

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[341] *Id.* (statement of Lori Marino, Ph.D., Neuroscience and Behavioral Biology).

[342] *Id.* (statement of Peter Corkeron, Ph.D., The Cornell Lab of Ornithology Bioacoustics Research Program).

[343] Congressional Oversight Hearing April 2010, *supra* note 306.

[344] *Id.*

[345] *Id.* (statement of Naomi Rose, Ph.D., Senior Scientist, Humane Society International).

[346] *Id.*

mandates to ensure proper care and education are occurring within marine parks.[347] She also took issue with the Harris and Roper Polls saying that a study conducted in Europe properly evaluated the knowledge of students after a lesson on marine mammals.[348] In this study, students' knowledge was evaluated after having a lesson conducted in an aquarium setting and one in a traditional classroom, at one day, two weeks, and three months post-lesson.[349] The results ultimately suggested that "students who learn about marine mammals in an aquarium setting do not retain information any better than students who learn about them in a traditional classroom after several months have passed."[350]

Dr. Rose criticized SeaWorld's conservation efforts with respect to killer whales.[351] According to SeaWorld, by increasing the world's population of whales and dolphins, it is assisting conservation efforts.[352] Dr. Rose claims this ignores the generally accepted concept of conservation-based captive breeding, because no killer whale born or held in captivity has ever been released in order to help repopulate wild groups.[353] She believes that while the MMPA has limited jurisdiction over marine mammals once they are inside a public display facility, it continues to have full jurisdiction over public display permit holders.[354] Therefore, agencies like the NMFS have a duty under the MMPA to ensure that the education and conservation programs of the facilities be held to standards of integrity and meaningful education.[355]

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[347] *Id.*

[348] Congressional Oversight Hearing April 2010, *supra* note 306.

[349] *See* Reinhard, B. and Killian, A., The Blue Classroom: Teaching the Young, Presentation at the European Cetacean Society 2004 Conference, Kolmarden, Sweden: The Blue Classroom: Teaching the Young (2004). According to the study, students who had their lesson at an aquarium scored higher on a knowledge quiz based upon the lesson at the one day and two week marks. *Id.* However, three months after the lesson, the student groups had similar scores when tested. *Id.*

[350] Congressional Oversight Hearing April 2010, *supra* note 306 (statement of Naomi Rose, Ph.D., Senior Scientist, Humane Society International).

[351] *Id.*

[352] *Id.*

[353] *Id.*

[354] *Id.*

[355] Congressional Oversight Hearing April 2010, *supra* note 306.

Filmmaker Louis Psihoyos, of Oscar™ fame for his dolphin slaughter documentary, The Cove, also participated in the subcommittee meeting and shared his thoughts on current educational standards for marine parks. Psihoyos was particularly skeptical of how the current state of the killer whale shows could ever be meaningful.[356] He said in his over thirty-five years of oceanic dives around the world, he has never once seen "a dolphin flip, spit water at a human, wave goodbye with their flipper, or moonwalk."[357] He believes demonstrating to children that dolphins are friendly and fun and will "do tricks for food" is not only teaching a domineering attitude toward nature, but is downright dangerous.[358] He further criticized the captive industry by saying that "the only thing [the natural environment] has in common with a concrete tank is the water, expect there is a lot less water at [SeaWorld]."[359] He quoted famed oceanographer Jacques Cousteau, reiterating the point that: "There's about as much educational benefit studying dolphins in captivity as there would be studying mankind by only observing prisoners held in solitary."[360] Psihoyos concluded his views by warning:

> It is irresponsible of those in the captivity industry to compare orcas and dolphins to playful happy pets who do tricks for food when it serves to entertain an audience, and then compare them to wild predatory animals when they need an explanation for extreme and aberrant behavior. From dolphin collisions to orca attacks, the question is not whether but when the next tragedy for marine mammals in captivity will occur. Under the current law [captive marine mammals] have been allowed to become denigrated circus animals that serve our amusement rather than our education.[361]

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[356] *Id.* (statement of Louis Psihoyos, Executive Director, Oceanic Preservation Society).

[357] *Id.*

[358] *Id.*

[359] *Id.*

[360] Congressional Oversight Hearing April 2010, *supra* note 306 (statement of Louis Psihoyos, Executive Director, Oceanic Preservation Society).

[361] *Id.*

SeaWorld, the AZA, and the AMMPA, however, painted a much different picture of the captive industry before the House Subcommittee hearing. According to Julie Scardina, the curator of SeaWorld Parks and Entertainment, "SeaWorld offers world class zoological experiences...[and] work[s] hard to ensure that [its] patrons leave...having had an enjoyable experience, and with greater knowledge of and appreciation for animals and the natural world."[362] Scardina claimed that in 2009, SeaWorld conducted more than 500,000 hours of structured teaching involving more than half a million guests to its three domestic parks.[363] She also boasted that SeaWorld, through the SeaWorld & Busch Gardens Conservation Fund, has granted more than six million dollars to 400 different conservation projects all over the world.[364] She claimed that SeaWorld not only complied with, but exceeded the AZA standards for marine mammal education and has developed multiple ways for guests to interact with animals they would not otherwise have an opportunity to see up close.[365] She also stated that SeaWorld has contributed measurable benefits to the scientific study of killer whales and their physiology and behavior.[366] Specifically, she claims that hydrophone arrays placed in Shamu stadium and adjoining tanks have helped SeaWorld develop tools to identify calling whales.[367] SeaWorld has obtained information regarding metabolic rate of the average killer whale, which she believes could be useful when developing wild whale conservation plans.[368] SeaWorld's killer whale breeding program has helped scientists understand killer whale gestation period and was also the first facility to successfully begin an artificial insemination program for captive whales.[369] She reiterated that SeaWorld continues to provide relevant and up-to-date scientific information on killer whales by receiving daily feedback

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[362] *Id.* (statement of Julie Scardina, Curator, SeaWorld Parks and Entertainment).

[363] *Id.*

[364] *Id.*

[365] Congressional Oversight Hearing April 2010, *supra* note 306.

[366] *Id.*

[367] *Id.*

[368] *Id.*

[369] *Id.*

from its own experts, outside experts, its conservation partners, and park guests.[370]

Dr. Paul Boyle, the Senior Vice President of Conservation, Education, and Professional Development for the Association of Zoos and Aquariums (AZA), also shared his professional opinions on the topic of marine park education in the wake of Dawn Brancheau's death. Dr. Boyle began his discussion by reminding the subcommittee that AZA-accredited zoos and aquariums enhance local and regional economies by collectively generating $8.4 billion in annual economic activity and supporting more than 126,000 jobs.[371] He said that AZA-accredited institutions' "constant delivery of professional programs in informal science education collectively [represent] . . . one of the chief mechanisms for connecting Americans to nature."[372] According to Dr. Boyle, "all AZA-accredited institutions must ensure that education is a central tenet in their mission, must develop a written education plan that matches current industry standards, and must regularly evaluate their education programs."[373] Elements evaluated for accreditation include:

- The number of staff dedicated to education programming
- How the education message is conveyed to the casual visitor
- Publications, brochures, or other printed material
- Classrooms and teaching areas
- The availability of funds allocated for education programs
- The level of education department contact with local schools, colleges, and other academia
- The volunteer, docent, and outreach programs
- The level of outreach programming and whether appropriate [p]rogram [a]nimals are being used

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[370] Congressional Oversight Hearing April 2010, *supra* note 306.

[371] *Id.* (testimony of Paul J. Boyle, Senior Vice President of Conservation, Educ. and Prof'l Dev., AZA).

[372] *Id.*

[373] ASSOCIATION OF ZOOS & AQUARIUMS, UNTITLED 1, *available at* http://naturalresources.house.gov/UploadedFiles /BoyleTestimony 04.27.10.pdf.

- How [i]nterpretive [g]raphics and [e]xhibits are developed, designed, and contain appropriate information[374]

Although Dr. Boyle acknowledged the importance of government involvement, he also admitted to express[ing] great concern at the thought that the detailed and [f]ederally-recognized, professional conservation education standards produced by AZA . . . may be undermined by those . . . deny[ing] the now significant body of evidence demonstrating why zoos and aquariums are achieving conservation education outcomes that could not have been anticipated just twenty years ago.[375]

Dr. Boyle specifically attacked Dr. Marino in his testimony, claiming that she and her colleagues "clearly have no knowledge of the education standards for evaluation that are used to assess the effectiveness and efficiency of the professional education programs in accredited zoos and aquariums . . . ."[376] Dr. Boyle concluded that the AZA Standards have produced the intended results, namely effective marine mammal conservation and education programs that sufficiently fulfill the requirements of the MMPA.[377] Therefore, he recommended that no changes in the law or additional regulations were necessary.[378]

The final supporter of the current regulatory regime, Rae Stone, D.V.M., of the Alliance of Marine Mammal Parks and Aquariums (AMMPA), claimed that AMMPA data suggests that "seeing living, breathing animals in zoological parks and aquariums inspires children and adults to care about protecting marine mammals and their declining ocean environments."[379] Dr. Stone referenced a study by Dr. Lance Miller which confirmed that guests viewing dolphin and whale shows "demonstrated an increase in conservation-related knowledge, attitudes, and behavioral intentions immediately

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[374] *Id.*

[375] *Id.* (testimony of Paul J. Boyle, Senior Vice President of Conservation, Educ. and Prof'l Dev., AZA).

[376] *Id.* at 8-9.

[377] *Id.* at 10.

[378] *Id.*

[379] Congressional Oversight Hearing April 2010, *supra* note 306 (Testimony of Rae Stone, D.V.M., AMMPA).

following their experience . . . ."[380] Dr. Stone believed this increase in conservational-minded guests was a direct result of the quality education standards set by the industry.[381] She believed that the urbanization of society and decreased access to wooded areas and the ocean leave children disconnected from animals and nature and that members of the AMMPA bridge this gap with their educational shows.[382] She highlighted the special programs that AMMPA members make available to school teachers and their students.[383] She also pointed out that entertainment is not a dirty word, claiming that entertainment gets peoples' attention and opens their heart to hear the message of conservation.[384] Despite Dr. Stone's reference to the many programs and educational opportunities available at AMMPA institutions, she failed to reference any measurable evidence that people are specifically learning about killer whales, killer whale conservation-related issues, and changing their lifestyles as a result.[385] She concluded that Alliance members are already committed to educating the public about marine mammals, and therefore no change is necessary to the current scheme.[386] She claimed, "Alliance members are uniquely able to share the wonder of their marine mammals with over 40 million visitors each year, igniting the imaginations of young children and coaching adults to adopt conservation behaviors that can make a difference to our oceans and the awe-inspiring animals that live there."[387]

The fact that aquariums like SeaWorld reach millions of guests each year by attracting them to the various parks with entertaining shows does not seem to be up for debate. However, the overwhelming issue seems to be whether the education has lasting value to park patrons and whether it ultimately benefits the captive animals' wild counterparts. Any evidence of this is, at best, inconclusive. According to Dr. Marino and her colleagues, "Only

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[380] *Id.*

[381] *Id.* at 3-4.

[382] *Id.* at 4.

[383] *Id.* at 4-5.

[384] Congressional Oversight Hearing April 2010, *supra* note 306 (Testimony of Rae Stone, D.V.M., AMMPA).

[385] *See id.*

[386] *Id.* at 10.

[387] *Id.*

well-controlled research, not enthusiastic assertions that outstrip the quality of scientific evidence, can address the question of whether claims concerning the positive effects of zoo and aquariums on visitors are justified."[388]

2. Observations of the Average SeaWorld Experience

With the continued debate over what constitutes meaningful public education at marine parks raging on in the background, I decided to visit SeaWorld San Diego for myself in order to see the in-park information and shows firsthand. I attended SeaWorld San Diego on Saturday, November 27, 2010 to witness the Shamu *Believe* show and ask questions specifically about killer whales and their care. I visited the park again on July 9, 2011 to see the new Shamu *One Ocean* show, which had been touted as a new educational and conservational experience for guests.[389]

When I entered the park in November, I went immediately to the underwater Shamu Observation area. The park's only adult bull, a whale named Ulises, was alone prior to the morning Shamu show. I was immediately struck by the sheer size of Ulises as he swam around the tank. The tank did not appear immediately small for him, but he swam in circles the entire time I watched him, taking barely two fluke strokes to propel him from one end of the tank to the other. I also noticed that his body was covered with scars and he had numerous cuts that appeared fresh.[390] While I was standing in the

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[388] Lori Marino et al., *Do Zoos and Aquariums Promote Attitude Change in Visitors? A Critical Evaluation of the American Zoo and Aquarium Study*, 18 SOCIETY AND ANIMALS 126, 137 (2010), *available at* http://www.english.gsu.edu/pdf/AZA_Study.pdf.

[389] On both occasions, I did not inform SeaWorld guest services that I was attending their park to observe their in-park education materials because I did not want them to give me any special treatment or alter their message specifically for me. I went with the mindset of an average guest on an average day hoping to see the whales and learn all about them. I videotaped the shows, left voice-recorded notes of my observations on my phone, took photographs of the animals and the shows, and asked questions of the marine mammal "educators" that stood near the exhibits. The following account is of my observations on both days as they pertain to general education, conservation efforts, and specific education about the killer whales. Any commentary or opinions in the following description are mine alone, unless attributed specifically to someone else.

[390] *See infra* App. A photograph eleven.

observation area, one of the other guests commented out loud that Ulises had "a bunch of cuts on his side." A small child also noticed the scars and lacerations and asked: "Mommy, why is Shamu hurt?" These comments were overheard by an educator standing with a microphone near the observation area named Kelly. (I presume her purpose at that station was to answer questions about the animals and talk about killer whale facts as the people looked at the whales.) Kelly explained that the cuts were superficial and the result of brother-sister love. She said that the whales all loved one another ,and raking each other with their teeth was the only way to show affection since they do not have hands and arms to hug and touch like people.

However, Naomi Rose, Ph.D. of the Humane Society International says that this statement is simply a half-truth.[391] She said that she believed the scratches were relatively superficial in nature, although after seeing the photograph of Ulises's side that I took, she said he seemed like he was beat up.[392] Dr. Rose disagreed with Kelly; saying the scratches were actually a way to show dominance within the orcas' matriarchal social structure.[393] Essentially, the males that are not related to dominant females at facilities like SeaWorld become social outsiders and the rake marks reinforce their low social status.[394] According to Dr. Rose, if Ulises's mother was alive and housed with him, he would likely have fewer scars and rake marks.[395] This theory appears more plausible than the "brotherly love theory" advanced by Kelly, as both Nakai and Kalia had far fewer rake marks than Ulises, and their mother, Kasatka, is purportedly the dominant female on site.

Kelly also pointed out that guests may notice Ulises's fin was flopped over to the left. She said that this is not the result of captivity but is caused by the sheer size of his fin. Male fins can reach up to six feet tall and are simply made out of cartilage and connective

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[391] E-mail from Naomi Rose, Ph.D., Senior Marine Mammal Scientist, Humane Soc'y Int'l, to author (Nov. 29, 2010, 10:12 PST) (on file with author) [hereinafter E-mail from Naomi Rose].

[392] *Id.*

[393] *Id.*

[394] *Id.* This is also the case with Tilikum – he is considered a low-ranking animal in the killer whale social society at SeaWorld Orlando. *Id.*

[395] *Id.*

tissue. Since the fin is so big, it buckles under its own weight without bones to support it.

Dr. Rose also disagrees with Kelly's information on drooping fins. She says there is no bone *or* cartilage in a killer whale's dorsal fin, just connective tissue.[396] Dr. Rose gave SeaWorld credit, saying that its information is correct in the online educational material, and she dismissed Kelly's comment to confusion of the proper terms.[397] However, Dr. Rose says that SeaWorld and Kelly are consistent in their statement that the flopped fins are not caused by captivity, and this is incorrect.[398] She said, "[f]ins *do* flop over because of captivity. This is not [an] opinion or debatable - it is a measurable fact."[399] According to Dr. Rose, the frequency of occurrence of flopped fins in captivity when compared to wild populations demonstrates that something about captivity causes the fins of adult males to flop over.[400] Dr. Rose attributes the cause of flopped over fins in captive animals to gravity, she says "[the dorsal fin] grows bent in captivity because orcas there spend 80% (or more) of their time at the surface of their enclosures – rather than the water column [where gravity is not a factor] supporting it as it grows, [and the] gravity in [the] air slowly pulls it over."[401] Dr. Rose said that Kelly's misinformation regarding killer whale dorsal fins "reveals a remarkable lack of understanding or respect for evolution and its economy. If the fin just flopped over from its own weight, evolution would have long since reduced its size - once it's curled over the back like that, it . . . [becomes] a hydrodynamic drag and . . . possibly

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[396] E-mail from Naomi Rose, *supra* note 391.

[397] *Id.*

[398] *Id.*

[399] *Id.*

[400] *Id.* Female fins also tend to bend in captivity, but not as severely as the males. *Id.* While fins also flop in the wild, it is incredibly rare and generally attributed to some trauma to the fin or birth defect. *Id.* Wild orcas spend 80% of their time underwater and as they grow, the fin is supported by the water column (where gravity is not a factor) and grows straight and tall. *Id.*

[401] E-mail from Naomi Rose, *supra* note 391. According to Dr. Rose, the tissue in the fin is relatively rigid, although it can soften a bit, especially when the animal is at the surface more and the sun is hot (the tissue in the fin can warm and get a bit soft, but it would still be as rigid as a thick wedge of rubber). *Id.* She says that once the dorsal fin grows straight, it stays straight and once it grows bent, it stays bent. *Id.*

a turn-off to females." I did not ask Kelly any additional questions and left the underwater observation area after roughly ten minutes in order to see the *Believe* show.

While taking my seat in Shamu Stadium to see the show, I noticed there were two large screens on either side of the stage which displayed multiple-choice questions about killer whales before the show began. The information was relatively basic and explained that killer whales can be found in all oceans on the planet, they are actually large dolphins, and they are mammals. I noticed many people were not paying attention to the screens because they were busy buying snacks or making sure their children were seated and ready to pay attention to the upcoming show. The show, called *Believe*, focused on some sort of mythical connection between the killer whales and their trainers. However, the trainers never entered the water with the whales pursuant to the new OSHA protocol developed after Brancheau's death nearly ten months prior to my trip. There were no facts about killer whales given during the show, when the audience was actually paying attention. I asked a random child sitting near me what she learned from the show, and she said excitedly, "That Shamu can jump and splash really big!" This gave me pause, considering the facilities have permits to keep the animals in order to educate the public about them, yet the education during the shows (when the audience is most attentive) was completely lacking.

I took some time after the show to ask a few questions about killer whales in the underwater Shamu Observation area. At that time, Ulises was once again kept alone in the tank, which Dr. Rose believes is "to keep him from being bullied."[402] While the whale in the tank was the same, the educator was different. This time, it was a girl named Laura.

I asked Laura where Ulises came from, expecting to hear that he was captured off of Iceland. However, Laura said he was "acquired" from a zoo in Spain. This sort of strange terminology is consistent with the buzzwords that SeaWorld has been known to use when referring to their animals.[403] According to SeaWorld's manual

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[402] *Id.*

[403] *See* Frontline, *A Whale of a Business: Avoid Buzzwords*, PUBLIC BROADCASTING COMPANY, http://www.pbs.org/wgbh/pages/frontline/shows/whales/seaworld/buzz.html (last

that was used in the early '90s, "certain words and phrases have negative connotations. At Sea World, we call these 'buzzwords.' Avoid buzzwords and use more positive words [so that] you'll give guests a better overall impression."[404] Such words include the following and their "more positive" replacements: sick-ill; hurt-injured; *captured-acquired*; tank-aquarium; captivity-controlled environment; tricks-behavior; dead – "If people ask you about a particular animal that you know has passed away, please say 'I don't know.'"[405] While some of these buzzwords may be on their way out, the word "acquired" instead of captured seems to be alive and well.

I decided to broach the subject of Ulises coming from Spain in hopes of hearing his full story by prodding, "So he's a Spanish whale?" This again would be untrue, since he comes from an Icelandic population of killer whales, just like Tilikum. However, Laura confirmed my seeming misconception saying, "Yep -- he comes from Spain." Dr. Rose says this is a continuation of the half-truths that SeaWorld has become notorious for.[406] Ulises was captured in Iceland and purchased by a zoo in Spain before he was "acquired" by SeaWorld San Diego on a breeding loan, making the statement that he comes from Spain technically correct, but only a small part of Ulises's story.[407]

It became clear that, if Laura would not tell me about Ulises's full history, I would have to ask her a question that would be more difficult to avoid. I asked whether Ulises was a resident or a transient whale, which seemed like a pretty basic orca-specific question to me. She responded that she did not know what the difference was. This shocked me since, as an average guest at the park, I would have assumed the educators standing tank-side for the purpose of answering questions about the animals would know the answers to the most basic of killer whale questions. I was wrong. Laura tried to recover by telling me she would look it up but quickly changed the subject by saying that Ulises gets the best of care and receives

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visited Oct. 11, 2011) (excerpt from a training manual used by SeaWorld Orlando, Nov. 21 (1991)).

[404] *Id.*

[405] *Id.*

[406] E-mail from Naomi Rose, *supra* note 391.

[407] *Id.*

restaurant quality fish every day. She said he eats 200 lbs. of fish per day and that he has not fathered any calves at SeaWorld.

Dr. Rose does not doubt that SeaWorld feeds their whales quality fish, nor does she doubt the allotted amounts.[408] However, she says that Ulises's failure as a stud is a fascinating piece of the SeaWorld breeding puzzle.[409] She claims it is unclear why he did not work out, and that SeaWorld would know if he was infertile himself (but this is not public knowledge) or if he was simply rejected by the females in San Diego.[410] While females do control mating access because they are dominant, SeaWorld has a successful artificial insemination program, making it more likely that he is infertile.[411] She says this "certainly makes Tilikum in Orlando all the more valuable to [SeaWorld], as he is a proven 'good breeder.'"[412]

I quickly left Laura and traveled around the park in search of more information about the ocean and ocean wildlife. I walked across from the killer whale compound to the bottlenose dolphin encounter. There, I found two educators named "T" and Ashley.[413] I approached them and asked if they could answer a few questions about killer whales. They said they could answer questions about any animal in the park, leading me to believe SeaWorld does not employ specific animal experts, but generalists that know a few random facts about all the animals in the park's care.

I began by asking questions about where the whales were from, beginning again with Ulises, and before answering T asked me, "How much do you know about killer whales?" An odd question, but to which I responded, "Not as much as you do." He laughed and said that he knew nothing about whales and dolphins before coming to work at SeaWorld. He said his degree was in communications, not biology (an interesting fact considering he was presented as an expert on the animals at SeaWorld, yet he knew absolutely nothing about

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[408] *Id.*

[409] *Id.*

[410] *Id.*

[411] E-mail from Naomi Rose, *supra* note 391.

[412] *Id.*

[413] I learned the educators' names by reading their nametags. "T" was all it said on the man's nametag, and therefore I will call him that when referring to his comments.

them when he was hired.) Unfortunately, after asking questions about the orcas, I realized he still knew next to nothing about them.

T began his spiel by telling me that the calves Nakai and Kalia were the only two calves born in the park and that Orkid came from San Antonio. This was untrue as all three were born at the park in San Diego, with Orkid being the calf that watched her mother, KanduV, bleed out in front of her after an injury during a show.[414] He also told me that Nakai is special because he was the first calf born from SeaWorld's artificial insemination program. This, according to SeaWorld's website, is true. Nakai is the son of Kasatka and Tilikum. T went on to tell me that Nakai and Kalia have their "run of the park because their mom's the queen." He said Kastaka is in charge, and so her calves boss the other whales around -- which, at the very least, seemed true to me with regard to Ulises.

I wanted to dig deeper into aggression towards Ulises by asking, "Is that why Ulises has all those scratches?" T said that the scratches are superficial and are intended to establish dominance. This was different than Kelly's explanation but more along the lines of what Dr. Rose subsequently told me. However, T took his story even further and said that Ulises's scars pale in comparison to those on wild killer whales because wild ones will attack and kill less dominant whales in "vicious" assaults. Dr. Rose said this is complete fiction. She reiterated that orcas live in close-knit societies in the wild, and orcas ganging up and killing another orca has never been documented in the wild, unlike in captivity where they *have* viciously attacked each other.[415]

I asked T if any of the orcas at SeaWorld were aggressive, and he replied that none are aggressive, but that Nakai can be a "troublemaker." It was particularly disturbing to me that when I brought up aggression he named the sole whale in the park that is genetically related to Tilikum.[416]

I decided to change the subject and ask T about where another whale, Corky II, came from. Corky II, as I had learned prior to coming to the park, was captured from British Columbia, Canada on

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[414] *See* Zimmerman, *supra* note 55.

[415] E-mail from Naomi Rose, *supra* note 391.

[416] The other orcas born in captivity housed at the park are Orkid (the daughter of Orky and Kandu) and Kalia (the daughter of Kasatka and Keet).

December 12, 1969 at the estimated age of three.[417] She was already identified by researchers in the area as A16, the daughter of A23, who was named Stripe.[418] Corky II's mother had another calf, a male named Okisollo, two years after Corky II was taken, another daughter in 1981 named Ripple, and another son in 1992 named Fife.[419] Corky II's mother died in 2000 at the estimated age of fifty-three.[420] Corky II's younger sister Ripple and brother Fife are still living, and her sister had a daughter in 1996 named Midsummer.[421] All of these facts are easily accessible through an online search. However, T told me that SeaWorld did not know anything about Corky II's past other than that she was the last whale taken from the wild. He said that the park that initially acquired her, Marineland, California, kept terrible records of their animals, and therefore they know nothing about Corky II's personal history. I found it hard to believe that SeaWorld knows nothing about Corky II after I found her life story in five minutes on the internet. I dropped the subject when I realized T was sticking to his poor records story.

Dr. Rose says this is another half-truth.[422] Corky II was taken from the wild, but she surely was not the last.[423] In fact, she was one of the first in a long line of wild-caught whales, and Dr. Rose insists that most parks keep accurate records of where the whales came from in order to maintain their live-capture permits.[424] T told me that Corky II had multiple calves but that none live at SeaWorld. Again, according to Dr. Rose, this is a misleading half-truth. None of Corky II's calves live at SeaWorld because none of them are living at all.[425] Corky II gave birth to seven calves, some stillborn and with the oldest surviving less than a month.[426]

I asked T about the resident/transient distinction in hopes that he would clear up Laura's glaring ignorance. He told me that

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[417] *See* Jacobs, supra note 2.

[418] *See* App. genealogy chart four.

[419] *Id.*

[420] *Id.*

[421] *Id.*

[422] E-mail from Naomi Rose, *supra* note 391.

[423] *Id.*

[424] *Id.*

[425] *Id.*

[426] *Id.*

transients wander the oceans looking for food while residents stay in the same bay for up to fifty years. I quipped, "Well if they stay in the same place for such a long time, where are they?" He told me they live in areas too remote to access, and therefore SeaWorld is the best place to see killer whales.

Again, Dr. Rose said this is 100% false. While transients do appear to have a greater range than residents, the distinction comes from their diet, language, and morphology.[427] She also said that residents do not remain in a particular contained area for any amount of time, and that it misleadingly allow guests to make the jump that it is not strange for killer whales to live in a confined area and thus accept captivity as close to the norm.[428] This is wrong, as residents can travel up to 100 miles per day.[429] The idea that residents stick to "remote" locations is also a fabrication.[430] Resident killer whales are commonly found in Puget Sound, just one hour north of the easily accessible city of Seattle.[431]

I decided to ask more basic-touristy questions and threw in one about T's favorite animal. He paused, thoughtfully, and said his favorite was a young male named Sumar. I asked where Sumar was, and T said he had died earlier in the year. I followed that up by asking what he died of. T stopped, as if surprised, looked at Ashley and asked, "Can we talk about this?" Ashley nodded and said, "Yah, it's official now." He then turned to me and admitted that Sumar died of a twisted intestine and it could not have been prevented. He went further, saying it was the result of a genetic condition and that he had a half-sister who died of the same thing a few years prior. This made Dr. Rose wonder why SeaWorld continued to breed that line if it was genetically predisposed to premature death by a condition that she believes to be something as basic as colic.[432]

Finally, I ended my conversation with T and Ashley with a simple one: "What pod do the whales here come from?" T answered

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[427]E-mail from Naomi Rose, *supra* note 391.

[428] *Id.*

[429] *Id.*

[430]*Id.*

[431] *Id.*

[432] E-mail from Naomi Rose, *supra* note 391. Dr. Rose said colic can be easily treated and detected in horses and wondered why SeaWorld, with its staff veterinarians and state of the art facilities, could not detect the problem. *Id.*

quickly with a smile on his face and said, "The SeaWorld pod of course!" Dr. Rose said this is the most truthful thing T told me.[433] She said SeaWorld has not only bred many of their whales but also moves them around, regularly making and breaking bonds between the whales.[434] According to Dr. Rose, these artificial, and at times traumatic, social groupings do not mimic any group in the wild and therefore are best described as "The SeaWorld Pod."

I hoped that my second SeaWorld visit on July 9, 2011 to see the new *One Ocean* show would leave me with a more well-rounded educational experience than its predecessor, *Believe*, or my regrettable conversations with SeaWorld "educators."[435] Unfortunately, I realized that *One Ocean* actually eliminated what little educational material was available from the *Believe* production, leaving all the teaching to educators like T.

Instead of having little multiple choice questions at the beginning of the show, *One Ocean* eradicated any facts and, instead, showed a behind the scenes propaganda piece on how SeaWorld is saving the ocean by rescuing stranded animals. However, SeaWorld neglected to share that they often get around the protections of the MMPA by having their own paid veterinarians declare the "rescued" animals unfit for reintroduction to the wild, and they are instead kept at SeaWorld as performers and fresh blood for their captive breeding

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[433] *Id.*

[434] *Id.*

[435] According to SeaWorld, *One Ocean* would exhilarate the crowd with new behaviors, stunning visuals, and would better educate park guests about the planet we share with amazing creatures like killer whales. *See One Ocean*, SEAWORLD PARKS AND ENTERTAINMENT, http://seaworldparks.com/en/seaworld-sandiego/Attractions/Shows/One%20Ocean (last visited Nov. 10, 2011). Specifically, SeaWorld boasted:

> The energy and spirit of the ocean envelops you [during *One Ocean*] in a multi-sensory celebration of life underneath the sea that entertains as it educates and inspires. Majestic killer whales join you on a journey into a world that drenches your senses in the vivid colors, vitality and global rhythms of the ocean. Dancing fountains set the stage as you connect with thrilling sea creatures and realize we are all part of one world, one ocean. Your soul is ignited as our worlds are united... and you realize that we all have the power to make a difference in this planet we share. *Id.*

programs.[436] This little SeaWorld commercial was augmented by information on becoming a trainer for a day to get an up-close encounter with the animals, for an additional fee. Finally, just before the show began, there was a little game on screen where audience members could text to a SeaWorld number in order to participate in a digital underwater race.

Once the show began, there was no further education, just whales doing the same tricks to new music with themes more similar to *The Lion King* than a classroom educational experience: we are

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[436] *See* Candace Calloway Whiting, *SeaWorld has a Vested Interest in Helping Stranded Whales and Dolphins,* THE SEATTLE POST-INTELLIGER BLOG (May 10, 2011 8:17 AM), http://blog.seattlepi.com/candacewhiting/2011/05/10/seaworld-has-a-vested-interest-in-helping-stranded-whales-and-dolphins/. Specifically, live captures of cetaceans are no longer allowed in the United States. *See id.* However, stranded cetaceans can be taken into captivity when they are not suitable for release back into the wild. *Id.* SeaWorld is a designated stranding responder and is registered with the NOAA Fisheries Office of Protected Resources. *Id.* In July 2011, SeaWorld used its rescue powers to determine that a young female pilot whale, who was stranded with her family on May 5, 2011 in the Florida Keys, was unfit for release. *See* Candace Calloway Whiting, *SeaWorld Has Possession of the Youngest Stranded Pilot Whale – Not a Surprise,* THE SEATTLE POST-INTELLIGER Blog (July 23, 2011 8:23 AM), http://blog.seattlepi.com/candacewhiting/2011/07/23/seaworld-has-possession-of-the-youngest-stranded-pilot-whale-not-a-surprise/. According to Whiting, "SeaWorld has . . . succeeded in obtaining a young female pilot whale for their breeding/entertainment programs at the expense of countless unpaid volunteers . . . [who] dedicated themselves to saving this whale." *Id.* This strategy seems to also be in the works for a young orca named Morgan that was stranded off the coast of the Netherlands and has been rehabilitated at a Dutch aquarium. *See* Candace Calloway Whiting, *SeaWorld's Shell Game – Are They Trying to Get the Young Orca That Stranded in Dutch Waters?,* THE SEATTLE POST-INTELLIGER Blog (July 20, 2011 5:20 PM) http://blog.seattlepi.com/candacewhiting/2011/07/20/seaworlds-shell-game-are-they-trying-to-get-the-young-orca-that-stranded-in-dutch-waters/. SeaWorld is currently opposing the release of Morgan to her family and instead supports moving her to an aquarium with other killer whales. *Id.* SeaWorld suggests Loro Parque is the perfect location for Morgan. *Id.* As noted previously, Loro Parque currently displays five killer whales on a breeding loan from SeaWorld. *Id.* SeaWorld's interest in Morgan appears to be nothing more than a strategic move on SeaWorld's part to obtain Morgan for its own captive breeding program – which is becoming more and more homogenous due to the lack of "fresh" wild blood. *Id.* This "shell game" would constitute an ingenious way to skirt the protections of the MMPA, supervision of the NMFS, and outcry of domestic activists. *Id.*

one, circle of life, care for the planet, etc. However, there was no information immediately available on how to care for the planet or the ocean. If spectators wanted to help, they were directed to SeaWorld's website. When I went home and searched SeaWorld's website for further information, all I could find was a sign-up for day camps or classroom aids for school teachers.[437] There was nothing for the average visitor to learn tips for saving whales or the ocean. The only nonprofit organization the site directs visitors to regarding conservation is the SeaWorld & Busch Gardens Conservation Fund.[438] There was no direction to well-known whale and dolphin conservation groups like The Cascadia Research Collective or animal welfare groups like the Humane Society. Ultimately, SeaWorld's conservation message during the *One Ocean* show seemed more like twenty minutes of self-aggrandizement and propaganda than twenty minutes of education on saving the oceans while demonstrating killer whale behaviors that occur naturally in the wild. Watching the orcas jump in and out of man-made water fountains in time to music, while their trainers danced and laughed, reminded me more of an old circus spectacle than an innovative, educational, and inspiring experience.

Overall, as far as conservation was concerned, I noted on both occasions that SeaWorld served food on plastic plates with plastic utensils and gave out plastic bags when people bought their merchandise. They also served farmed salmon as the only seafood option at their dining facilities, which is known to be unsustainable and on the "SeaFood Watch List."[439] I noticed that SeaWorld did not sell any peer-reviewed scientific material on any of their animals. There were no scientific books on killer whales, or any other animal

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[437] *See Educational Programs*, SEAWORLD PARKS AND ENTERTAINMENT, http://seaworldparks.com/en/seaworld-orlando/Educational-Programs (last visited Nov. 7, 2011).

[438] *See Who We Are*, SEAWORLD & BUSCH GARDENS CONSERVATION FUND, http://swbg-conservationfund.org/whoWeAre.htm (last visited Nov. 7, 2011).

[439] *See What is Wrong with Salmon Farming?*, RAINCOAT RESEARCH SOCIETY, (2002) http://www.raincoastresearch.org/pdf/Salmon_farming.pdf. Farmed salmon has been criticized as an unsustainable food source and people are advised to avoid eating if because it contains more contaminants than wild-caught salmon. *Id.* Ironically, the habitat that salmon farms are at risk of destroying is home to killer whales, upon which the captive industry capitalized, including Corky's family. *See id.*

in the park, written by any entity or research group other than SeaWorld and its subsidiaries. Even then, the books were mainly geared toward small children and there was nothing available to serve a higher reading level. Essentially, SeaWorld patrons could not purchase an objective educational book if SeaWorld sparked their interest in a particular animal at the park. Instead, they would have to look elsewhere to get the full story.

I purchased the SeaWorld Adventure Park book, which was the closest thing I could find to a factual book on their animals and animal husbandry. It was sixty pages long with large, bold photographs of the park and animals taking up the majority of the space.[440] Of the sixty pages, only four contained information on killer whales, and one of those four simply explained how to become a trainer.[441] I photocopied the pages referring to killer whales and sent them to Dr. Rose for review.

One of the facts Dr. Rose highlighted was an excerpt that claimed killer whales travel with the calves and the females in the center of the pod and the males on the wings.[442] She said that when resting, this sort of formation is possible, but the way the book is written implies that the males are somehow harem bulls protecting "their" females and offspring.[443] This is incorrect, as there are no harems in orcas.[444] These males would be relatives: sons, brothers, and uncles – protecting the females in any way this formation affords while at rest.[445] During any other behavioral state, this statement is not accurate.[446] When foraging, traveling, or socializing, there is rarely any kind of set formation.[447] Therefore, Dr. Rose believes this

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[440] LORAN WLODARSKI, SEAWORLD ADVENTURE BOOK (SeaWorld Inc.,ed. 2010).

[441] *See id.*

[442] Second e-mail from Naomi Rose, Ph.D., Senior Marine Mammal Scientist, Humane Society International, to author (Dec. 29, 2010, 10:12 AM) (on file with author) [hereinafter Second e-mail from Naomi Rose].

[443] *Id.*

[444] *Id.*

[445] *Id.*

[446] *Id.*

[447] Second e-mail from Naomi Rose, *supra* note 442.

statement is true only in a very limited sense, but it "over-simplifies orca behavior to the nth degree."[448]

Another point of concern for Dr. Rose in the Adventure book was a statement claiming that orcas have no natural predators, but sharks prey on older, younger, or ill animals.[449] Dr. Rose says she agrees that it may be possible that calves are susceptible to shark predation, however "it is not likely to happen routinely, as orcas rarely have shark wounds and obviously some attacks [would not] be entirely successful[,] and a calf (with scars) would survive [and be documented]."[450] There is no evidence that shark predation happens with any measurable frequency; in fact, if one "Googles" "shark predation on orcas" or "predation on orcas by sharks," the first returns are all about how orcas prey on sharks, not the other way around.[451] Dr. Rose believes statements like this by SeaWorld foster an incorrect assumption that captivity is safer for killer whales than the wild and scary ocean, and therefore guests become more accepting of the practice.[452]

SeaWorld claimed the average size of an adult male is nineteen to twenty-two feet, while the average size of an adult female is sixteen to nineteen feet.[453] Dr. Rose found these sizes suspect, saying that they underestimate the size of adult killer whales, and substitute an average that is more common for captive animals, which are traditionally a few feet smaller.[454] Finally, Dr. Rose found the segue into the "So You Want to be a Trainer?" section somewhat disturbing.[455] Her overall opinion was that SeaWorld provides only a small amount of information of the complex natural history of these animals, with even simpler morphometric data biased toward captive examples, and provides much more information on captive breeding

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[448] *Id.*

[449] WLODARSKI, *supra* note 440.

[450] Second e-mail from Naomi Rose, *supra* note 442.

[451] *Id.*

[452] *Id.*

[453] WLODARSKI, *supra* note 440.

[454] Second e-mail from Naomi Rose, *supra* note 442.

[455] *Id.*

with artificial insemination and so on; it is all egregiously biased toward the captive situation as opposed to the natural one.[456]

On both of my visits, the information regarding killer whales that was available on the educational boards throughout the park was surprisingly minimal, considering that Shamu is the park's star attraction.[457] There was no information about the endangered killer whale population in North America, nor was there information about the different orca ecotypes. The boards simply explained the different behaviors that killer whales exhibit in the wild: breaching (jumping), spy hopping (sticking their head out of the water), cartwheeling, etc. However, they did not discuss why the whales do these behaviors or how they are important to orca societies. The boards mostly discussed the same general information that the multiple choice questions prior to the show covered: range, size, top speed, the amount of food they eat in a day, and so on.

Ultimately, my experiences at SeaWorld gave me a very different picture of the park, its education, and conservation positions. Instead of taking advantage of eco-friendly practices, SeaWorld used plastic. Instead of promoting sustainable fisheries as a conservation-minded ocean park, SeaWorld promoted a known unsustainable food source. Instead of capitalizing on the opportunity to educate the audience during a show, SeaWorld posted information the audience had to read to understand during a time when people were clearly distracted, and then disposed of it all together. Instead of supplying guests with scientifically-sound and peer-reviewed educational sources, SeaWorld restricted guests' access to information by only providing captivity-biased facts and directing guests to its own non-profit conservation program. Instead of requiring that educators have a marine biology background, SeaWorld hired people who did not know basic facts pertaining to animal biology, social ecology, and morphology. Instead of providing guests with the full story, SeaWorld provided guests with misleading half-truths. This cannot be allowed to fulfill the "education" and "conservation" requirement of the MMPA. If SeaWorld continues with the same scheme that I witnessed on

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[456] *Id.*

[457] *See infra* App. A, photograph eighteen for an example of these educational boards.

November 27, 2010 and July 9, 2011, then it is the position of this paper that the permits allowing them to keep killer whales should be revoked or suspended until they are able to institute an education and conservation program that is not simply approved by SeaWorld's corporate office and other like-minded aquariums, but by credible marine mammal scientists. The present-day educational benefit is simply not worth the risk to trainers.

As seen previously, not only are trainers at risk, but the animals themselves are dying at an alarming rate when compared to their wild counterparts. One would presume the laws pertaining to captive killer whales would seek to ensure that park husbandry techniques are adequate, providing a stimulating environment for the animals while tending to their basic needs at the same time. However, the adequacy of the laws has been the source of constant protests from animal rights groups and scientists alike. If the laws are inadequate, it will be impossible to make sure the whales are kept in proper conditions, thus insuring long-term animal and trainer safety.

V. THE ANIMAL WELFARE ACT AND CFR TITLE 9

A. History and Current Applicable Law

The Animal Welfare Act (AWA) was passed in 1966 for the primary purpose of improving the treatment and well-being of animals intended for research.[458] Congress has periodically amended the AWA, expanding the coverage to more animals and activities, in order to curtail animal cruelty in all aspects of research and business.[459]

According to the AWA as it applies to captive killer whales, an "animal" protected under the Act refers to ". . . any warm-blooded animal, [that] . . . is being used, or is intended for use for . . . exhibition purpose[s]."[460] An "exhibitor" is essentially any person or

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[458] GEOFFREY S. BECKER, CONG. RESEARCH SERV., RS 22493, THE ANIMAL WELFARE ACT: BACKGROUND AND SELECTED LEGISLATION 7-5700 (2009).

[459] *Id.*

[460] 7 U.S.C. § 2132(g) (2008).

entity exhibiting any animals to the public for compensation.[461] Under the AWA, the Secretary of the United States Department of Agriculture (USDA) is responsible for issuing licenses to exhibitors for a prescribed fee after the exhibitor complies with the standards for humane treatment laid out by the department.[462] Such basic standards include minimum requirements for: "handling, housing, feeding, watering, sanitation, ventilation, shelter from extremes of weather and temperatures, adequate veterinary care, and separation by species where . . . necessary for humane . . . treatment."[463] Exhibitors receive and maintain their exhibition licenses through the USDA's Animal and Plant Health Inspection Service (APHIS).[464] Therefore, APHIS is the sole regulatory agency responsible for the inspection of facilities that house killer whales in order to ensure their compliance with the standards set out for basic marine mammal care in Title 9 of the Code of Federal Regulations (CFR or The Code).[465] CFR Title 9 regulates all basic aspects of marine mammal care of the general facilities, space requirements, feeding, sanitation, and separation, as well as the process for obtaining variances from those standards.[466]

All facilities that house marine mammals must be structurally sound and maintained in good repair to protect the animals from injury.[467] The facilities must also be constructed so that the animals are protected from "abuse and harassment by the viewing public."[468] In general, water and electricity supplies must be reliably provided to the facilities, with designated contingency plans in case the supply fails.[469] Adequate drainage must be provided for all pools so that they may be emptied for medical or sanitary purposes.[470] All food or perishable supplies must be stored in facilities that protect them from

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[461] *Id.* at § 2132(h).
[462] *Id.* at § 2133.
[463] *Id.* at § 2143(a)(2)(A).
[464] BECKER, *supra* note 458.
[465] *See* 9 C.F.R. § 3.100-3.118 (West 2011).
[466] *Id.*
[467] *Id.* § 3.101(a)(1).
[468] *Id.* § 3.101(a)(2).
[469] *Id.* § 3.101(b).
[470] 9 C.F.R. § 3.101(c)(1) (West 2011).

deterioration or spoilage.[471] Those facilities that are not located directly in the marine environment must provide for the removal of food wastes, dead animals, trash, and debris.[472] Any waste or particulates that enter the water of a marine mammal enclosure must be removed daily, with the walls of the facilities "cleaned as often as necessary to maintain proper water quality."[473] Water samples must be taken and tested at least weekly for coliform count, and at least daily for pH level and any chemical additives.[474] The coliform bacteria count cannot exceed 1,000 per 100 ml of water.[475] Because marine mammals are oceanic creatures, the salinity of their tanks is also regulated, with salinity to be maintained at roughly 15-36 parts per thousand.[476] Water quality standards are to be maintained by filtration and chemical treatment when not located directly in the natural marine environment.[477]

Any food given to the animals must be "wholesome, palatable, and free from contamination and must be of sufficient quantity and nutritive value to maintain marine mammals in a state of good health."[478] Marine mammals must be fed at least once a day, and when given to the animals individually, must be administered by a caretaker with knowledge to assure that the animal received enough food to maintain its health.[479]

All killer whales in the Unites States are kept in outdoor facilities. Therefore, C.F.R. Title 9 demands that the surface of the water be kept free of ice, and that each enclosure offers natural or artificial shelter to "afford [all marine mammals] protection from the weather or from direct sunlight."[480]

In general, marine mammal's facilities must provide "sufficient space, both horizontally and vertically, to be able to make normal postural and social adjustments with adequate freedom of

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[471] *Id.* § 3.101(d).
[472] *Id.* § 3.101(c).
[473] *Id.* § 3.107(2) & (3).
[474] *Id.* § 3.106(b).
[475] 9 C.F.R. § 3.106(b) (West 2011).
[476] *Id.* § 3.106(c).
[477] *Id.* § 3.106(d).
[478] *Id.* § 3.105(a).
[479] *Id.* § 3.101(c).
[480] 9 C.F.R. § 3.103(b) (West 2011).

movement . . . ."[481] Four factors are considered when evaluating the minimum tank requirements for marine mammals like killer whales: minimum horizontal dimension, depth, volume, and surface area.[482] Killer whales are considered "Group I Cetaceans" by The Code, with a listed average length of twenty-four feet.[483] Using that measurement, The Code demands that killer whales be housed in tanks that have a minimum horizontal dimension of forty-eight feet, a minimum depth of twelve feet, and a minimum surface area of 678.24 feet.[484] The size of the largest animal in the tank determines the space requirements for the facility.[485] To determine the official length of the animal, it must be measured "from the tip of its upper jaw . . . to the notch in the tail fluke."[486]

As stated previously, killer whales are social animals and travel in groups of closely related individuals. The Code requires that whenever animals are "known to be primarily social in the wild, [they] must be housed in their primary enclosure with at least one compatible animal of the same or biologically related species . . . ."[487] However, such animals may be kept alone when the attending veterinarian,[488] in consultation with the facility's husbandry staff,

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[481] *Id.* § 3.104(a).

[482] *Id.* § 3.101(b).

[483] *Id.*

[484] *Id.* Additional water volume is required where the facility houses more than two Group I animals, with killer whales of APHIS's average determination requiring an additional minimum water volume of 10,851.84 cubic feet per animal in excess of two. *Id.*

[485] 9 C.F.R. § 3.101(b) (West 2011).

[486] *Id.* § 3.104 (b)(1)(i) n.8.

[487] *Id.* § 3.109. Biologically related or compatible species are not defined within the CFR. *See id.*

[488] According to The Code's definition, the attending veterinarian is a person who:

> [G]raduated from a veterinary school accredited by the American Veterinary Medical Association's Council on Education, or has a certificate issued by the American Veterinary Medical Association's ... or has received equivalent formal education as determined by the Administrator; has received training and/or experience in the care and management of the species being attended; and who has direct or delegated authority for activities involving animals at a facility subject to the jurisdiction of the Secretary. *Id.* § 3.101.

determines that such housing "is not in the best interest of the marine mammal's health or well-being."[489]

Marine mammals must be attended by a sufficient number of adequately trained employees working in concert with the attending veterinarian.[490] Employee training includes, but is not limited to: "species appropriate husbandry techniques, animal handling techniques, and information on proper reporting protocols . . . ."[491] Any training of marine mammals must be conducted under the "direct supervision of experienced trainers," and all trainers must meet "professionally recognized standards for experience and training."[492] Basic veterinary care requires that individual animal medical records be kept and made available to APHIS upon inspection.[493] These records must include: animal identification/name, physical description, and physical examination information.[494] The attending veterinarian must examine animals at least annually, and a complete necropsy must be conducted when the animal dies. The marine mammal's home facility maintains the records. .[495]

Finally, The Code allows for variances from the marine mammal care specifications in emergency circumstances and "where compliance with one or more requirements would not serve the best interest of the marine mammals concerned."[496] An application for the variance must be made to the Deputy Administrator of the USDA and must include: the species and number of animals involved, a statement from the attending veterinarian regarding the proposed variance, each provision of the regulation that is not met, the time period for the requested variance, reasons why a variance is requested, and the estimated cost of compliance.[497]

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[489] *Id.* § 3.109.
[490] 9 C.F.R. § 3.108(a) (West 2011).
[491] *Id.* § 3.108(b).
[492] *Id.* § 3.108(c)-(d).
[493] *Id.* § 3.110(d).
[494] *Id.*
[495] 9 C.F.R. § 3.110(d) (West 2011).
[496] *Id.* § 3.100(a).
[497] *Id.* § 3.100(b).

While the provisions within C.F.R. Title 9 lay out a foundation for facilities that house marine mammals, they do not adequately provide for the basic needs of killer whales.

B. CFR Title 9 Enforcement and Critique

APHIS is the sole administrative agency charged with inspection of marine parks to determine their compliance with The Code.[498] In general, each inspection involves an APHIS's inspector observing the facilities, the animals, and the records required by The Code with respect to those animals.[499] All APHIS inspections are unannounced and typically are performed annually at each facility.[500] Once on site, an individual designated by the facility accompanies the inspector throughout the park.[501] All applicable regulations and standards are evaluated during the inspection, and the results are recorded in the inspection report.[502] These findings are discussed with facility officials and a copy of the report is provided to the park.[503] Any items that are not in compliance with The Code are cited on the inspection report.[504]

If a finding of non-compliance has a direct impact on the welfare of an animal, it is cited as a "direct non-compliance."[505] The inspector then determines an appropriate correction date based upon the severity of the violation, the impact on the animal's well-being, and the difficulty of remediation.[506] It is APHIS's policy that a direct non-compliance "should be reinspected near (but after) the designated correction date to [en]sure that the issue has been successfully addressed."[507] At this time, APHIS determines if further

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[498] E-mail from David Sacks, USDA-APHIS spokesman, Public Affairs, USDA (Jan. 26, 2011, 11:23 AM) (on file with author) [hereinafter E-mail from David Sacks].

[499] *Id.*

[500] *Id.*

[501] *Id.*

[502] *Id.*

[503] E-mail from David Sacks, *supra* note 498.

[504] *Id.*

[505] *Id.*

[506] *Id.*

[507] *Id.*

enforcement action should be taken by considering several factors, such as the violation, the enforcement history of the facility, the impact of the violation, and if it is a repeat non-compliance.[508]

Enforcement actions may vary from an official warning letter to a formal investigation to even issuance of a complaint.[509] Complaints are handled pursuant to the Federal Administrative Procedure Act under the jurisdiction of an administrative law judge within USDA.[510] Possible penalties include cease and desist orders, fines, suspensions, and potential revocations of licenses.[511] However, once the complaint is issued, all penalties are determined by the judge and are no longer under APHIS's control.[512]

Complaints have been lodged against APHIS for finding Miami Seaquarium compliant with The Code in its care of the killer whale Lolita.[513] According to Howard Garrett of the Orca Network, a longtime proponent for Lolita's release:

On several counts, the Seaquarium clearly violates . . . [C.F.R. Title 9], including protection from sun, the need for conspecific companionship, and most obviously, minimum dimensions of the tank. As APHIS has ignored the AWA over the years I've come to realize that the agency sees its role as protecting the marine park and its economic functions first, with enforcement of animal welfare standards secondary, to be enforced only when doing so entails no significant cost to the park owners.[514]

However, according to APHIS, Garret is incorrect because the Seaquarium not only meets but exceeds the minimum requirements of The Code in its care of Lolita.[515] According to APHIS's official measurements, the volume requirement for Lolita's pool is 25,943 ft^3,

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[508] E-mail from David Sacks, *supra* note 498.

[509] *Id.*

[510] *Id.*

[511] *Id.*

[512] *Id.*

[513] E-mail from Howard Garrett, Co-Founder, Orca Network (Jan. 17, 2011, 2:30 PM) (on file with author) [hereinafter E-mail from Howard Garrett].

[514] *Id.*

[515] E-mail from David Sacks, *supra* note 498. APHIS determined in 1988, after having the pool measurements verified by an independent outside engineer, that the pool met basic AWA space requirements. *Id.* APHIS' determination and position remain unchanged. *Id.*

while the actual volume of her enclosure is 49,308 ft^3.[516] The surface area requirement for an animal of her size is 1,808.64 ft^2, while the actual size of her tank is 7,326 ft^2.[517] The minimum depth requirement is twelve feet, and the actual depth of her tank ranges from twelve to twenty feet. Finally, the minimum horizontal dimension requirement is forty-eight feet; the actual measurement of her tank is eighty feet in one direction and sixty feet in the other.[518] However, the minimum horizontal dimension is intersected by a permanent training/performance platform, which animal rights activists claim violates The Code.[519] Ultimately, APHIS is of the position that:

While there is a platform in the pool that does intersect with the required minimum horizontal dimension, the regulations do not prohibit the presence of such an object. More importantly, the platform does not hinder Lolita's ability to move about freely in a pool that, otherwise, far exceeds the minimum requirements established by the AWA regulations.[520]

Whether APHIS's interpretation of The Code with respect to Lolita and other killer whales is adequate is debatable. However, captive killer whale husbandry as it relates to the animals' general well being has become an even greater hotbed for controversy, especially now that former trainers are adding their opinions to the mix.

A recent article by John Jett, Ph.D. and Jeffrey Ventre, M.D., former killer whale trainers at SeaWorld, criticized the captive industry, claiming it is unable to provide adequate environments for keeping both killer whales and their trainers alive in captivity.[521] The article specifically referenced the lives of animals like Keto and

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[516] *Id.*

[517] *Id.*

[518] *Id.*

[519] E-mail from Howard Garrett, *supra* note 513.

[520] E-mail from David Sacks, *supra* note 498. *See infra* App. A, photograph eight and diagram nine for a pictorial and graphical depiction of Lolita's tank and her relative size compared to it.

[521] Manuscript, The Orca Project, John. S. Jett, Ph.D. & Jeffrey M. Ventre, M.D., *Keto & Tilikum Express the Stress of Orca Captivity*, (Jan 20, 2011), http://theorcaproject.wordpress.com/2011/01/20/keto-tilikum-express-stress-of-orca-captivity/.

Tilikum, both of whom have killed experienced trainers since December 2009, saying:

Tilikum is representative of the many social and health issues plaguing captive orcas. Typically spending their entire lives within tight family groupings, orcas captured from the wild, including Tilikum, have been traumatically extracted from the security, comfort and mentoring which these groupings provide. Captured animals are confined to small, acoustically-dead, concrete enclosures where they must live in extremely close proximity to other whales with which they often share no ancestral, cultural or communication similarities. The resultant infighting amongst captive orcas is exacerbated by virtue of having no place to run, as confinement fails to provide spatial escape options that natural settings offer. As a result, social strife is common in captivity, including aggression, in which whales are cut, raked, and rammed, usually by members higher on the social ladder.[522]

Jett and Ventre listed many indicators of stress in captive orcas including: chewing on the metal barriers between tanks, thereby breaking their teeth leaving the pulps exposed; ulcers; anti-social behavior; immune system failure from the deleterious effects of chronic antibiotic usage; and physical "deconditioning" from being unable to swim freely for any distance.[523] Both trainers attribute many premature whale deaths to broken teeth, including the recent death of the original Baby Shamu, named Kalina, who died of acute bacterial septicemia in late 2010, saying:

> If left alone, the decaying pulp forms a cavity that leads to food plugging. The reaction of the orca's immune system to this plugging is to create inflammation and eventually a focus for systemic infection. Because of the relative youth of most captive whales, the roots of many of their teeth are immature, which makes a root canal procedure impossible. Instead, using a variable speed drill, trainers drill holes through the pulp and into the jaw via an endodontic procedure called a modified "pulpotomy." This is an uncomfortable husbandry

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[522] *Id.*

[523] *Id.*

> procedure for the whales, which have been observed refusing to participate by sinking down into the water, shuddering, or splitting from their keepers. After "tooth drilling" is complete, trainers must irrigate (flush) the bored out teeth two-three times each day, for the rest of the orca's life, to prevent abscess, bacteremia, and sepsis.[524]

Captive whales are also given on-going prophylactic medications, such as those that reduce stomach acid production and block histamines in order to prevent ulcers.[525] Pills, including various antibiotics, are typically packed into captive orcas' food.[526] The effects of overuse of these drugs may include, but are not limited to: "disruption of normal bacterial flora in the gut, malnutrition, and susceptibility of the host to opportunistic pathogens such as fungi and yeast."[527] The marine parks' misuse of prophylactics is attributed to the considerable pressure that veterinary and animal care workers at those facilities are under to "keep valuable captive assets, such as orcas, alive."[528]

Another concern promulgated in Jett and Ventre's paper is the effect of harmful UV rays on orcas that spend the majority of their time at the surface of the water.[529] Apparently, many animals suffer from sunburn and must regularly have sun block and black zinc oxide applied to their backs to help avoid burns.[530] Furthermore, UV radiation exposure is a factor in the development of cataracts, especially in low latitude environments with elevated sun exposure.[531]

"Compounding the issue, water in orca tanks is shallow and clear, offering no natural protection from the sun's harmful rays."[532]

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[524] *Id.*
[525] *Id.*
[526] JETT & VENTRE, *supra* note 521.
[527] *Id.*
[528] *Id.*
[529] *Id.*
[530] *Id.*
[531] JETT & VENTRE, *supra* note 521.
[532] *Id.*

The authors could attribute at least one attack on a trainer to the whale's decreased visual acuity, possibly the result of cataracts.[533]

Another criticism of captive care involves the killer whale diet: "Although staff members at these parks are trained to repeat the script that the fish is of 'restaurant quality,' they fail to mention that free-ranging orcas don't typically eat smelt, which are the size of sardines, and which constitute nearly half of their captive diet."[534]

Although SeaWorld's captive breeding program has received praise as being the most successful and state-of-the-art in the world, both Jett and Ventre disagree with this conclusion. In fact, they claim that SeaWorld's breeding program is in direct conflict with nature and it is no surprise that the parks still have high stillborn and calf mortality rates.[535] Not only has SeaWorld bred different ecotypes with one another, producing hybrids between resident and transient types (although genetic studies indicate the two types diverged tens of thousands of years ago), but they also are notorious for breeding young females as soon as they reach sexual maturity.[536] While wild orcas generally begin calving between fourteen and seventeen years of age at an average rate of one calf every five to six years, some captive animals have given birth as early as six years of

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[533] *Id.*

[534] *Id.* A serious cause for concern is the fact that the fish fed to captive killer whales is often frozen and served in pieces. *See* Laurence Couquiaud, *Survey of the Environments of Cetaceans in Human Care*, *Aquatic Mammals* (Vol. 31, 2005). Couquiaud noted:

> [It is] recommended that whole fish be used as often as possible because cut-up fish loses important nutrients from beheading, evisceration, and leaching. Vitamin supplements are important to replace loss through storage, thawing, and processing. Fish such as smelt, herring, capelin, and some types of mackerel contain thiaminase, which induces thiamine deficiencies in cetaceans that can provoke severe to fatal disorders. *Id.*

[535] JETT & VENTRE, *supra* note 521. Globally, marine parks have seen sixty live births since 1977. *Id.* However, thirty-two of those animals (53%) are already deceased (as of December 2010). *Id.* SeaWorld alone has had twenty-eight live births, with nine deceased (32%), as are ten of the mothers. *Id.*

[536] *Id.*

age, and at a rate of roughly one calf every three years.[537] Giving birth at such a young age comes with risks, including "immature mothers refusing, or not knowing how, to properly nurse their calves."[538] SeaWorld has had numerous problems with new mothers rejecting their calves, showing outright aggression towards them, or refusing to nurse them.[539] This is a current problem for the new young mother, Kohana, on loan to Loro Parque from SeaWorld, who will not nurse her calf.[540] Taima was another infamously poor mother, who died from a prolapsed uterus in 2010 while giving birth to her stillborn fourth calf at the young age of twenty.[541]

Ultimately, Jett and Ventre concluded that captive facilities are not meeting the needs of their killer whales and, therefore, it is no surprise that the whales are behaving aggressively toward their trainers.[542] Their criticism of marine park animal husbandry, specifically with regard to killer whales, provides a valuable insight into the inner workings of those facilities from the trainers themselves. It is their hope that a "more holistic understanding of orcas within captive environments may lead to better judgments by park managers, the public, and regulatory agencies such as the USDA, APHIS, NOAA, NMFS and . . . OSHA."[543]

In light of Jett and Ventre's recent report, the question has inevitably become: who, or which agency, is responsible for allowing such blatant failures in basic killer whale care? It is the position of this paper that the answer to that question lies not within agencies like APHIS, but within the provisions of CFR Title 9 itself.

Perhaps the greatest failure of CFR Title 9, as it applies to marine mammals, is its overbroad approach, which leaves too much discretion to the regulated entity. While administrative agencies, such as APHIS, cannot be expected to become the leading experts on such specific topics as killer whale biology and their effective

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[537] *Id.* Kalina gave birth to her first calf at age six. *Id.* Kohana and Taima both gave birth to their first calves at age eight. *Id.*

[538] *Id.*

[539] *Id.*

[540] JETT & VENTRE, *supra* note 521.

[541] *Id.*

[542] *Id.*

[543] *Id.*

husbandry, it is illogical to leave regulatory standards to the discretion of those that must follow them. Phrases like, "best interest of the marine mammals," "adequately trained," "experienced trainers," "professionally recognized standards," "compatible animals," and "as determined by the attending veterinarian" are consistently used throughout the applicable regulations. Not only are these terms overbroad and ambiguous in and of themselves, but they lack any clarifying definitions. The basic scheme of the directive, by word choice alone, lends to the proposition that marine parks have clearer knowledge of marine mammals and their care, and therefore can better define "experience," "compatibility," "adequate training," and what is in the "best interests of the animals" in their care, than the regulatory body. It is the position of this author that this is counterproductive and lends itself more freely to promoting abuses of animals than ensuring their protection. A marine park like SeaWorld can simply say, "The attending veterinarian says it is in the best interests of Tilikum to be isolated," and APHIS will leave that determination to the park without too much further inquiry. To compound the problem, facilities like SeaWorld and the Miami Seaquarium employ fulltime veterinarians that are on park payroll. It is nearly impossible to consider them impartial decision-makers as to what is in the animal's best interest when they report directly to a corporate entity, which is presumably more concerned with quarterly profits than the animal's best interests. Therefore, it is nearly impossible for an agency like APHIS to serve the purpose of the AWA, which is to protect animals from exploitation, when the regulations it enforces are set by "professionally recognized standards," which is the functional equivalent of saying by "the aquariums themselves." This allows entities that exhibit animals like killer whales for profit to regulate themselves, a privilege reserved for no other businesses.

Not only is it difficult for aquariums to be found non-compliant with regulations they can essentially define, but there are no real consequences for the rare circumstances in which they are found to have violated the codes. Many times, APHIS cites the facility and then leaves it up to the aquarium to become compliant or to the administrative law process, which rarely lands the marine park in court. This cannot be acceptable if the agency and its regulations are to be given any credence by marine parks.

Dawn Brancheau's death spurred investigation into the educational value of the facilities, but there has yet to be an administrative reevaluation of CFR Title 9 as it pertains specifically to killer whales.[544] It would seem that it is about time. Many of the codes are ambiguous and outdated, and outline minimum standards that have existed practically since the beginning of orca captivity. Advances and additions to the law should come with advancing knowledge of killer whale biology, sociology, and neurology. The thought that a twenty-four foot long killer whale only requires a minimum water depth of twelve feet, half its body length, for its tank to be compliant, is absurd. Not only does the minimum compliant tank require a depth of half the animal's body length, but it requires a horizontal length of only twice the animal's body length, which can still be impeded by a platform, as in Lolita's case. Considering that orcas can travel at speeds of up to thirty miles per hour and distances of up to 100 miles in a day, these minimal measurements are embarrassing. While it is impossible for a land-based aquarium to be built large enough to simulate the range of wild killer whales, it is outrageous that nothing has been done to amend the Code to, at the very least, provide for a living environment where the animal can reach top speed without running into a wall or dive to the depths of its enclosure without half its body sticking up in the air.

The idea that other dolphin species are "compatible companions" for killer whales is as preposterous as the size dimensions when one considers that orcas have been known to prey on or play with fellow cetaceans to death.[545] The fact that they are

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[544] There was a review of the regulations as they pertain to marine mammals overall, conducted in the mid-1990s. *See* Third e-mail from Naomi Rose, *supra* note 75. This process ended in consensus for some regulatory provisions but not others. *Id.* However, the "non-consensus provisions in the regulations have still not been revised and published for public comment – even though it has been fifteen years since the negotiated rule-making process concluded and ten years since the consensus language was published and finalized." *Id.* However, there has been no species-specific examination of the applicable code sections. Moreover, the USDA's apparent failure to incorporate provisions that reached consensus for nearly five years is indicative of an even larger problem: indifference.

[545] Transient orcas are not the only ecotype which is known to kill porpoises – a close cetacean relative. *See* The SeaDoc Society, *Killer Whales Kill and then Abandon a Harbor Porpoise off San Juan Island*, WILDLIFE HEALTH

both types of cetaceans does not make them compatible species; it just makes them taxonomically related. Perhaps a similar arrangement, although admittedly more absurd, would be to keep a human in a confined area with a chimpanzee. While the human would likely lead a more fulfilled life than one in complete isolation, that scenario would still not constitute the ideal human environment. It would seem that the particular social nature of killer whales paired with their long-term familial bonds would lead to only one conclusion: in order to keep an orca in captivity, it must be housed with another genetically-related orca to have a truly "compatible companion." Therefore, not only is the language of CFR Title 9 ambiguous, with the foundations of the regulation left to the aquariums themselves, but the entire marine mammal section appears outdated when examined in light of present scientific knowledge.

It is no wonder that APHIS rarely finds violations and that the Miami Seaquarium has not built a new facility for Lolita. It is no wonder that Tilly is left alone, without stimulation, and is seemingly lifeless to park visitors without violation or reprimand. It is no wonder that captive whales are dying at a somewhat alarming rate without inquiry. Finally, it is no wonder that frustrated animals, when given the opportunity, could lash out at those close to them. While no observer, trainer, or marine mammal expert can say for sure what causes these attacks, common sense would indicate that the better care the animal receives, the less likely it is to become violent.

The system of statutes, regulations, and administrative bodies that govern the capture, import, display, and basic care of captive killer whales is in disarray. Meanwhile, the entire purpose for justifying keeping the animals on display in the first place, education of an ignorant public, seems mere subterfuge for making a profit. It is the position of this author that if the whales themselves are better cared for and their needs better met, it is less likely that they will harm their trainers. Simply put: to better protect the trainers, the law must better protect the whales. In order to make keeping killer

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CENTER, UC DAVIS SCHOOL OF VETERINARY MEDICINE (Sept. 9, 2009) http://www.seadocsociety.org/harbor-porpoise-killed-by-killer-whales. In fact, the fish-eating resident orcas have also killed porpoises. *Id.* Although residents have never been observed eating a fellow marine mammal, members of both J and L Pods have been witnessed "playing with porpoises to death" on four separate occasions. *Id.*

whales in captivity worth the inherent risk, there must be some legitimate educational and conservational value to it. If the laws and regulations do not change to reflect this line of thinking, then it would seem that the whales and their trainers are simply dying to entertain the masses when they could be living to educate them.

VI. SUGGESTIONS FOR IMPROVEMENT

This article suggests multiple areas for improvement: (1) amend CFR Title 9 with tailored legislation specifically for the display of killer whales; (2) require marine parks displaying killer whales to have a scientifically-valid education program subject to outside scientific review; (3) coordinate better communication between governmental agencies involved in the enforcement of laws regarding captive killer whales; (4) strictly enforce the new standards; (5) provide harsher penalties for violations; and, finally, (6) develop a retirement plan for animals who have performed more than twenty years or have been involved in a violent incident with a human.

A. Amend CFR Title 9 with Tailored Regulation for Killer Whale Care

It is apparent from investigation into the plain language of CFR Title 9,[546] biology and sociology of killer whales, and husbandry techniques used by marine mammal parks that CFR Title 9 must be amended. Simply put, the provisions pertaining specifically to killer whales are outdated and give too much discretion in regulation to the marine parks themselves, thus greatly diminishing the power of APHIS to ensure animal welfare.[547]

In order to better protect the animals and reorganize the self-regulatory scheme of the captive industry, the author suggests that objective killer whale experts work with the USDA to define the

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[546] *See supra* notes 492-93 and accompanying text.

[547] It is important to note that this article only critiques CFR Title 9 provisions as they relate to killer whale care. Refusal to address the care of other captive marine mammals does not constitute an endorsement of the provisions as they relate to other animals, but merely demonstrates the specific outlook taken to constrain the article itself.

minimum standards for adequate killer whale. This would entail meeting with researchers like Ken Balcomb III, John K.B. Ford, Graeme Ellis, and Ingrid Visser (to name a few), and asking them to help establish a minimum attainable standard for captive killer whale care. This would inevitably lead to higher minimal tank measurement requirements as well as a clear definition for what constitutes a "compatible animal" from an objective scientific perspective as opposed to a subjective park-biased perspective. This, however, does not mean that minimum requirements should be entirely unattainable, as it is impossible to recreate the ocean.

The Code should also require the employment of outside veterinarians by APHIS when determining what is in the "best interests of the animal" instead of the current regime, which leaves this decision up to a park-employed veterinarian.[548] This would help eliminate any bias that could emerge with respect to appeasing park management, as the regulatory bodies are supposed to be neutral. It is clear that a veterinarian employed by an entity like SeaWorld would be more loyal to the "best interests of their continued employment" than the best interests of the animals in his or her care. This would also eliminate the variance loophole, by requiring a neutral APHIS marine mammal veterinarian to sign off on variances. Another limit necessary to constrain variances would be to require the establishment of a variance panel to vote on whether a variance is necessary under the circumstances. This panel should consist of the APHIS marine mammal veterinarian, killer whale field experts, and APHIS inspectors. The parks should not have a final determination in whether or not a variance is necessary. If they cannot comply with the minimum standards set out by experts in the field, then they should not be allowed keep killer whales on display. The animals are simply too large and too dangerous to allow otherwise.

Other basic care requirements should include: required access to shade, required birth control for females under the age of fourteen, and required sterilization of animals prone to aggression. When I attended SeaWorld San Diego, there was no permanent shade structure over any of the killer whale tanks. This is simply unacceptable in light of the Jett/Ventre report.[549] Sunburn and

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[548] *See supra* text accompanying note 493.

[549] *See supra* notes 525-29 and accompanying text.

cataracts are serious issues that not only impact animal health and comfort, but could result in irritability, frustration, and poor vision that could lead to attacks on trainers. The CFR already requires a permanent shade structure be available to outdoor aquariums,[550] but this does not appear to be enforced with any regularity or real consequences. Jett and Ventre's paper also exposes the issues with young mothers producing calves before they are naturally ready.[551] This leads to a high calf mortality rate, which is not only serious for the calves, but also could result in depression and abnormal behavior in the mothers. Birth control methods are readily available for captive whales and should be utilized to promote optimal birthing conditions for the mothers and calves, meaning they should not give birth before the age of fourteen or at a rate that inhibits mother/calf bonding. Finally, the Code should require that all animals that have been involved in more than one aggressive incident with a trainer, and that required a trainer's subsequent hospitalization, be chemically sterilized. This would help decrease testosterone levels and would also end artificial insemination sessions with particularly aggressive bulls. This may also decrease any genetic tendency towards aggression in the park's breeding operation.[552]

The CFR also addresses necropsies, or animal autopsies.[553] While it already requires that the reports of cause of death be submitted to APHIS upon request, it does not make these reports automatically accessible to APHIS and outside researchers. Understanding and keeping accurate records of the animals' causes of death is particularly important to evaluating the effectiveness of each facility's husbandry techniques. Moreover, if captivity is to have any value to wild killer whale research programs, the ability to

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[550] *See supra* text accompanying note 476.

[551] *See supra* notes 531-37 and accompanying text.

[552] While I am not a killer whale expert, I have showed and trained horses for more than half of my life. In this time, I have trained at facilities that had breeding operations. It is common knowledge among the horse breeding industry that aggression is genetic, and therefore, many aggressive stallions are avoided for fear those traits would be passed on to his offspring. If this same concept is true for killer whales, then it is imperative that aggressive animals are not bred. If parks like SeaWorld have goals to domesticate the killer whale, then it would start with meaningful, selective breeding for "captivity-accepting" traits. Such traits would be: smaller size, docility, and responsiveness to human interaction.

[553] *See supra* text accompanying note 491.

perform necropsies on captive whales could be one of the most influential. Therefore, the CFR should require, at the very least, that killer whale experts be present at the necropsies to take samples and notes on the internal workings of the animals. This may also be a way for the captive industry to contribute to education, by allowing marine biology students to come from around the world to participate in the necropsies. At this point, the bodies of captive killer whales are useless to the outside educational and research worlds. If the animals are to die in captivity, allowing their impact to survive for years would help give validation to their captive lives.

The goal of these suggested amendments is to provide better standards of care, eliminate the self-regulatory framework of the law, and provide validation to the lives of the animals that will inevitably die in an unnatural environment. While these suggestions are basic, leaving the details to the true experts (objective killer whale scientists), they are a step in the right direction toward fulfilling the purpose of the Animal Welfare Act.

B. Subject Park Education Programs to External Standards and Review

The Marine Mammal Protection Act requires that facilities housing killer whales have an education and conservation program that "meets professionally recognized standards" in order to receive a permit to display them.[554] One of the most alarming issues within the captive killer whale industry is the blatant lack of any meaningful education and conservation program. This article suggests that "education and conservation" must be objectively meaningful and also must be construed as it pertains to the *specific species* the display entity is seeking a permit for in order to fulfill the true spirit of the MMPA. SeaWorld is viewed as a leader in the education and conservation platforms, yet it is my personal experience that its "education" is not only full of half-truths, but is at times bold-faced lies. This is particularly unfortunate when balancing the value of the education against the risk of death to trainers paired with the premature deaths of the animals. If killer whale captivity is to be worth the risks, it must present some intrinsic public value beyond

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[554] 50 C.F.R. § 216 (2010).

amusement. Therefore, what constitutes meaningful education should not be determined by the AZA and AMMPA, organizations that the parks are all members of, but by objective educators.

The two-prong test promulgated by Dr. Marino should be evaluated by NMFS when granting display permits for killer whales: the information must be relevant and accurate, and there must be concrete evidence that the visits to the aquariums serve an educational or conservation purpose.[555] The information that parks display should be peer-reviewed by scientists in the field to insure its accuracy. I was alarmed by both the lack of continuity in SeaWorld's information as well as the general lack of scientifically accurate information altogether. Not only do marine parks' educational programs need to be reevaluated, there should also be polls and questionnaires administered to random guests exiting the parks at random intervals to determine whether that information is retained. This should be followed up with more long-term studies in order to help inform the NMFS on the true value of "taking" killer whales for public benefit. Marine parks should also contribute to the conservation of wild killer whales. This may include donating money to research groups that are not affiliated with the parks as well as donating the bodies of dead killer whales to scientific research.[556] If there is no measurable public benefit, then there is no justifiable reason to keep killer whales in captivity.

The possibilities for improvement in both education and conservation are endless. The NMFS must hold the parks accountable for the information they are disseminating to the public. If parks are unable or unwilling to give their guests a full and meaningful education and if it is impossible to determine whether they have any long-term impact on guests' attitudes toward conservation, then the NMFS should revoke any and all permits to house killer whales in the United States.

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[555] Marino, *supra* note 388.

[556] Some suggest that this may also entail the release of suitable candidates to aid science in determining the long-term memory capabilities of killer whales as well as the value of retention of culture and language. If the animals are released soon enough, they may even be able to reproduce in the wild, which would be the most obvious contribution to the conservation of the species.

C. Coordinate Better Communication between NMFS and APHIS

Another problem with the current captive killer whale regulatory scheme is the disconnect between the NMFS and APHIS. These two bodies operate independently with the NMFS reporting to NOAA and APHIS to the USDA. In order to ensure better care across the board, APHIS and NMFS must coordinate their efforts to enforce the MMPA and the AWA. As previously stated, killer whales must be better cared for not only for the animals themselves, but also to ensure trainer safety. There will always be inherent risks when working with such large, carnivorous, water-bound creatures, but in order to make captivity worth the risk to trainer safety and the sacrifice to the ideal killer whale habitat, facilities should have exceptional killer whale conservation and education programs. This ideological framework shows the clear connection between the tasks of both APHIS and the NMFS.

Therefore, the two must work together to ensure that neither overlooks their jurisdiction, because, in the end, the whales, their trainers, and the public at large all lose. In this respect, the author suggests the creation of a liaison between the two regulatory bodies to act as an expert on all killer whale-related regulations and as a knowledgeable contact for the public, animal activist groups, and the parks themselves. If this is unrealistic, or too costly, then perhaps the regulatory framework should shift back to the way it was before the 1994 amendments to the MMPA, where the NMFS was the sole regulatory body of marine parks. This would make the NMFS the supreme expositor of educational and conservational standards, permitting, and the basic requirements for killer whale care, thereby eliminating confusion that arises where duties may overlap between the NMFS and APHIS.

D. Engage in Stricter Enforcement

Once there is better communication between the NMFS and APHIS, or consolidation of marine mammal responsibility, there can be a better enforcement plan implemented to ensure marine park compliance with both the MMPA and the AWA. Perhaps one of the biggest hurdles for regulatory agencies is funding, particularly in a time of economic strife. While Congress tackles problems with health care, poverty, and public education, it is no shock that funding

gets cut for agencies that ensure proper care and permitting of killer whales. However, that does not mean their efforts are unimportant. In fact, they have become *increasingly* important in the wake of Dawn Brancheau's death.

It is the position of the author that the education and care standards of marine parks should not only be evaluated once per year, when serious complaints arise, or when parks apply to import new animals. Random "sting" inspections should occur at all facilities housing killer whales at least once per month. In order to ensure funding for the inevitably necessary increase in manpower and time, the author proposes a "Tilly Tax." This would impose a $25,000 annual tax per killer whale on any facility that houses one.[557] This number pales in comparison to the multi-million dollar value of these animals, and therefore is justifiable when compared to the risk of housing them. With twenty-one killer whales currently in captivity in the United States, this would garner $525,000 to the regulatory agency responsible for assessing animal care under CFR Title 9 as well as permitting under the MMPA. The author proposes that those monies be used directly to support the income of the increased facility inspectors as well as the proposed objective government-employed killer whale veterinarian.

Essentially, killer whale display would be taxed in a similar manner to hazardous waste disposal. While the parallel may appear odd in its simplest form, when examined more closely, the two have key elements in common. Both industries produce a known danger in the course of their daily business operations (hazardous waste is a danger to public health while killer whales are a danger to their trainers).[558] The inherent danger in killer whale display is a choice

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[557] This means the Miami Seaquarium would owe $25,000 per year in order to keep Lolita at its facilities. Six Flags Discovery Kingdom USA, California would owe $25,000 annually in order to continue to house Shouka. All three SeaWorlds combined would owe $475,000 per year (assuming all nineteen orcas in its possession survive). The number of animals any given park has would be assessed at the end of each tax season and due when all other Federal taxes are due. An animal that dies during the fiscal year would not result in a tax break that year nor would an animal birth during the fiscal year require an additional $25,000. All monies owed would be assessed at the end of the tax year and reassessed at the end of the next fiscal year to prevent any confusion or difficulty with budgeting.

[558] The state of Vermont, in particular, is known for its taxes on hazardous waste. *See* The New Rules Project, *Hazardous Waste Tax*, INSTITUTE FOR LOCAL

made by the marine parks and would be completely avoidable by fazing them out, either through approved release programs or by ceasing to breed them. Therefore, the "Tilly Tax" could also be avoided. It is not the intention of the tax to eliminate the public display of killer whales. However, it is intended to make aquariums evaluate killer whales' vitality to the facilities and to help ensure adequate enforcement of the proposed amendments to CFR Title 9 and the new regulatory scheme.

E. Subject Parks to Harsher Penalties for Violations

One of the biggest criticisms that animal rights activists promote regarding APHIS is that facilities are not punished for noncompliance. For example, the current Code says that where marine mammals are kept outside, they must have access to shelter from the elements.[559] SeaWorld San Diego had no permanent shade structures when I visited in both November and July. One of its whales, Corky II, visibly suffers from cataracts in her right eye. When considered in conjunction with Jett and Ventre's report regarding the effect of sunlight on whale skin and vision, this comes as no shock.[560] SeaWorld's lack of shade could be because they have

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SELF-RELIANCE (2009) http://www.newrules.org/environment/rules/recycling-and-solid-waste/hazardous-waste-tax (lasted visited Nov. 8, 2011). A hazardous waste tax is assessed on generators when the waste is shipped, or when facilities recycle, treat, store, or dispose of hazardous waste. *Id.* Most revenues collected from the hazardous waste tax are deposited in an environmental contingency fund used to investigate and mitigate the effects of hazardous waste released into the environment. *Id.* Additional tax revenues from the tax are forwarded to a hazardous waste management assistance account to improve hazardous waste management throughout Vermont. *Id.*

[559] *See* 9 C.F.R. § 3.118(a)(2). The Code provides that "when sunlight is likely to cause overheating, sunburn, or discomfort, sufficient shade must be provided to protect the marine mammals." *Id.* Once again, note the ambiguous language and inherent interpretation concerns with the term "sufficient."

[560] APHIS posts its inspection reports online each year. *See* APHIS, *Inspection Report Search*, USDA-APHIS, http://acissearch.aphis.usda.gov/LPASearch/faces/LPASearch.jspx (last visited Nov. 8, 2011). However, there are no recent inspection reports listed for SeaWorld San Diego. *Id.* For the purposes of this article, it is assumed that the park has lacked permanent shade structures for quite some time, so if SeaWorld has been cited, it has not sought to remedy the problem as of July, 2011.

never been cited for it, but assuming *arguendo* they have, what would inspire them to take action to fix the problem?

According to APHIS, the current penalty procedure is: citation, listed date for remedy (as determined by need and cost), and reevaluation.[561] If the park has not complied by the follow up inspection, APHIS *may* issue a "warning letter to a formal investigation and possible issuance of a complaint."[562] If the complaint is even issued, the potential punishment is in the hands of an administrative law judge, who is even more unfamiliar with the basic needs of killer whales and how the violation impacts their lives.[563]

It is the position of the author that there needs to be a clearly defined policy for violations of CFR Title 9. Perhaps one way to do this would be to implement a "three strikes and you're out rule" for direct violations.[564] Essentially, a park has three chances to comply with the Code before its permit to house the animals is officially revoked. The parks' first chance lies in the random "sting" inspection. If the park in question is found to be in violation of the basic killer whale care provisions, it will receive "strike one" and will be inspected again one month to the date from the initial violation. This follow up meeting will require the park to show APHIS a remedial plan for moving forward. At this time, park officials, APHIS inspectors, and independent killer whale experts will determine an appropriate time line for the remedy.[565] If the park does not have an outline of how it will remedy the violation, then they will receive "strike two." Finally, if the direct violation is not remedied within the predetermined timeline, then the park will receive "strike

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[561] *See* E-mail from David Sacks, *supra* note 498.

[562] *Id.*

[563] *See id.*

[564] If a facility is cited as being non-compliant with the Code, and that citation has a direct impact on the welfare of an animal, it is cited as a "direct non-compliance." *Id.* Essentially there is a hierarchy of violations; the three-strike policy would only be implemented for those violations deemed serious. A serious violation would be determined under the newly implemented killer whale-tailored regulations, suggested previously. Such a determination under this new scheme would be made by APHIS in conjunction with independent (unbiased) killer whale experts.

[565] This will allow everyone involved to consider necessity, impact on the animal, cost, and, if construction is necessary, a reasonable construction timeline.

three" and its permit to house killer whales at their facility will be revoked until the problem is remedied. Only after the problem is remedied would the park be allowed to reapply for an exhibition permit.

The best way to ensure compliance with care regulations is to regularly inspect facilities and to have legitimate consequences for noncompliance. If the tailored regulations are enforced through random stings and harsh penalties, it is more likely the animals will be better cared for, and, therefore, less likely that the animals will react violently toward humans out of frustration or anxiety.

F. Develop a Retirement Plan for Captive Killer Whales

The author's final suggestion for improvement is to develop a mandatory retirement plan for all captive killer whales that have performed for twenty years or have been involved in a violent incident with a trainer that resulted in hospitalization. This provision would also allow for the release of animals, like Corky II and Lolita, whose natal pod is known.[566] This suggestion, while aggressive, is not unique to this article, as many have pushed for the retirement and release of captive killer whales. Specifically, the Orca Network has developed a plan for Lolita's rehabilitation and release into the wild that could be used as a blueprint for the establishment of an ocean-based facility where captive orcas could retire.[567] The Humane Society of the United States (HSUS) sent a letter to SeaWorld in the wake of Dawn's death suggesting that Tilikum should be transferred to a sea-pen facility where he could live out his life away from the demands of captivity.[568] HSUS was an active group in the

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[566] Knowledge about the animal's immediate family is critical for a successful release. *See* Howard Garrett, Co-founder and president, Orca Network, *Draft Proposal for Retiring the Orca Known as Lolita to her Native Habitat in the Pacific Northwest* (2007), ORCANETWORK.ORG, http://www.orcanetwork.org/captivity/2007proposaldraft.html. Lolita is a particularly good candidate for release because she continues to vocalize in her family, L Pod's, unique dialect. *Id.* The information on Lolita's family as well as her "maintenance of her family's culture" makes her a much more viable candidate for release than animals like Keiko, whose family group was unknown. *Id.*

[567] *See id.*

[568] *See* Letter from Wayne Pacelle, President, Humane Society of the United States, to Stephen A. Schwarzman, CEO, Blackstone Group, and Jim

rehabilitation and release of Keiko and has expressed its desire to lend its expertise in assisting parks like SeaWorld with the retirement of their aggressive and aging killer whales.[569] It is clear that the suggestion of a retirement plan will be met by marine animal parks with staunch refusal, as it has already been suggested and fervently denied on numerous occasions in the past.[570] However, it is the position of the author that groups like HSUS and the Orca Network must work with APHIS, NMFS, and marine parks to develop a comprehensive retirement plan for animals meeting the age and aggression requirements before more animals die young or more trainers are seriously harmed.

While it is undeniable that captive killer whales are the property of their respective marine parks and that requiring their release would be argued as tantamount to an eminent domain-like taking, it is also important to recognize that the United States regulatory and statutory scheme has not treated animals like *any other* piece of property. In fact, animals are often taken from owners who are deemed unfit or abusive in order to provide better care and ultimately a better life for them.[571] While mandatory retirement is the author's most aggressive and inherently costly suggestion, it is not without ideological precedent.

Atchison, CEO, SeaWorld Parks and Entertainment, Inc. (Mar. 3, 2010) (on file with author).

[569] *See id.*

[570] *See* Letter from Jim Atchison, CEO, SeaWorld Parks and Entertainment, Inc., to Wayne Pacelle, President, Humane Society of the United States (Mar. 16, 2010) (on file with author). Mr. Atchison referred to Keiko's release as "tragic" and "disgraceful," despite his survival for five years in the marine environment, historic trip across the Atlantic Ocean from Iceland to Norway, and safe interaction with wild orcas. *Id.* Atchison essentially accused HSUS as being a useless organization that sits back and complains about animal care yet contributes little to the actual rehabilitation of animals. *Id.* He reiterated that captivity was the best place for Keiko and that while HSUS is complaining, SeaWorld is in the field saving animals. *Id.*

[571] Many state legislatures have developed "Cruelty Statutes" that create the duty to provide adequate care and establish punishment for failure to comply with such procedures. *See* MICH. COMP. LAWS § 750.49-70; N.D. CENT. CODE § 36-21.1-01 – 15; CAL. PENAL CODE §§ 286.5; 596-600.5; FLA. STAT. § 828.01 828.30; TEX. PENAL CODE ANN. §§ 42.09, 42.091, 42.092, & 42.10. Penalties include: felony and misdemeanor prosecution with potential jail time and removal of the animal from the person's care. *Id.*

Retirement to a coastal net-pen facility could also provide a valuable opportunity for parks like SeaWorld to expand upon their mission of education and conservation while enhancing public interest and creating positive press at the same time. Marine parks could partner with one another to pool their funds with public donations to establish a non-profit retirement facility where the captive-born and animals deemed "unreleasable" could live out their lives. Here, the animals would experience the power of the tides, the pressure of the depths, the annual change in the seasons, and the call of their instincts. The retirement facility could even charge a limited number of guests to visit at limited times each day to see the animals in their natural environment learning to be whales again. This would provide a wonderful educational opportunity and platform for promoting respect for and conservation of marine mammals while helping with continued funding. Animals deemed suitable for potential release could be visited like Keiko was as they are "rewired" for life in their natal pods. Guests could learn about their wild families and how they will be released. The marine parks could produce documentaries about their release, contributing to even more publicity and goodwill. This option would bring the industry full circle and would allow the whales to presented as beautiful, wild creatures who are intelligent enough to not only work alongside humans, but to deserve our ongoing respect.

VII. CONCLUSION

Killer whales are majestic, intelligent, and arguably self-aware creatures that have intrigued humans for as long as interactions between the two species have been documented. Much of the whales' current goodwill has been encouraged by captive encounters with average members of the public. However, killer whales' reputation as our "friends in the sea" is not impervious. The continued attacks on trainers create negative publicity for the animals and will inevitably cause their reputation to slip back into the murky depths of ignorance and fear.

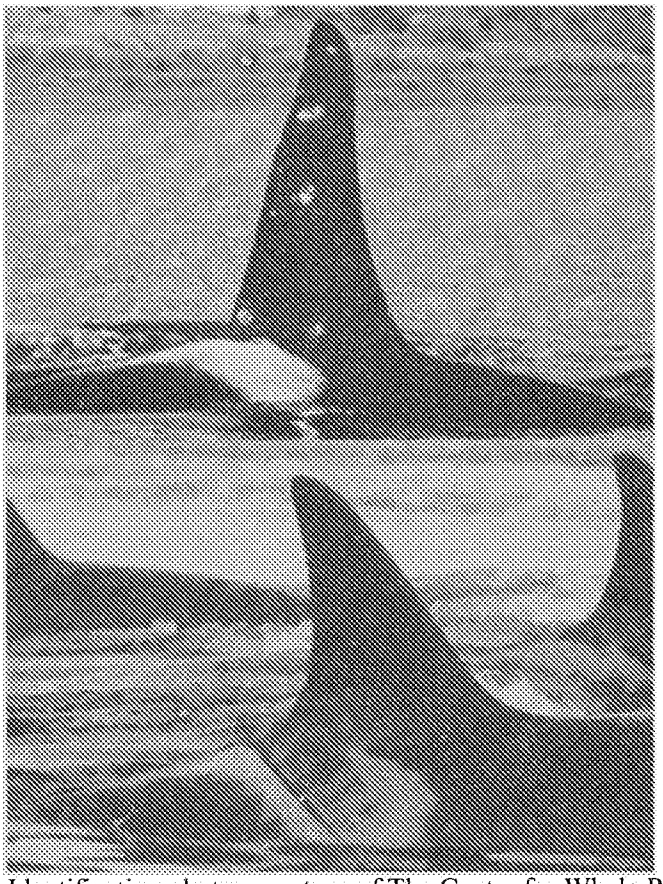
The theme parks that house these animals also have something to lose by not adapting to and confronting the wave of public concern. Marine parks' refusal or inability to initiate new animal husbandry and trainer safety techniques will spur negative PR campaigns and more criticism of the industry as a whole. It is the

responsibility of organizations like APHIS and OSHA to ensure that these businesses not only operate safely for their employees' sakes, but also for the health of the animals they profit from. Code law development in this area must consider the biology and sociology of killer whales in order to better define their needs and then provide for them through specifically tailored regulations. If the animals are better cared for, it is logically less likely they will lash out at trainers due to aggression, frustration, or loneliness.

However, reinforcing and establishing new regulatory codes is not enough. There must be more continuity between APHIS and the NMFS permitting processes to help prevent confusion within the regulatory regime itself. It is also imperative that the continued enforcement of the regulations be paired with real consequences for violations in order to ensure the new, more comprehensive plan will succeed. Implementing a retirement plan for captive killer whales will not only renew public appreciation and good will toward the parks, but it will also provide the animals with a better sense of normalcy and decrease the likelihood of attacks due to prolonged confinement and frustration. It is admittedly impossible to recreate a wild killer whale habitat in a captive environment. It is also impossible to know exactly what causes a whale to attack its trainer. There will always be an inherent risk of serious injury when humans work with such large, predatory, aquatic animals, although it can be minimized with better basic care requirements. In order to make captivity worth the risk to trainers and the whales, the aquariums must present objectively valuable education and conservation programs for their guests.

Captivity should not amount to a prison sentence for the animals and a potential death sentence for those who love and care for them. Captivity should, however, be aimed at reinforcing positive public opinion as well as conservation efforts for the captive animals' wild counterparts. This goal can be achieved through purposeful regulation and enforcement. Perhaps then, the animals can finally escape their "killer" reputation and be respected as one of the most powerful, beautiful, and intelligent predators on the planet. It is time for the whales and their trainers to live to educate us instead of continuing to die for our entertainment.

APPENDIX A



Identification photos courtesy of The Center for Whale Research

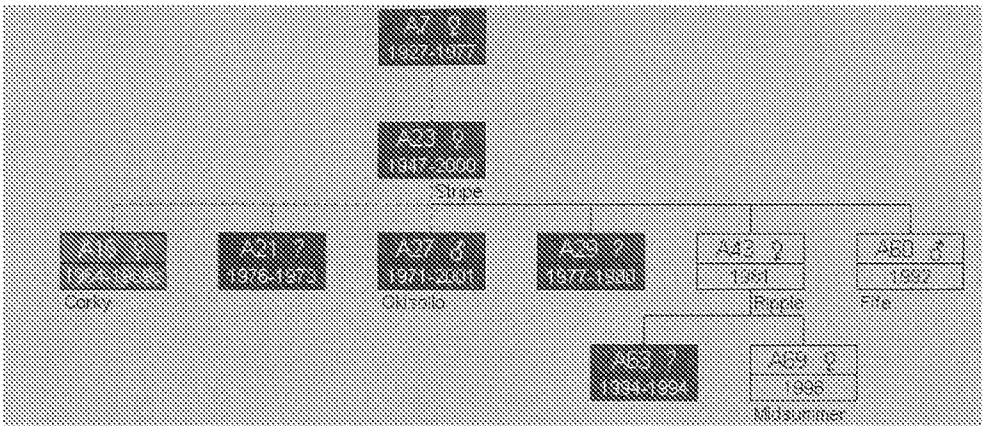
1. These photos demonstrate the morphology of male and female killer whale dorsal fins. Notice the male's greater fin height (on the top) when compared to the female's fin (on the bottom). These photos also display the contrast between saddle patches on individual animals. The male on the top has a "closed" saddle patch and the female on the bottom has an "open" saddle patch. These individuals are J1 (est. 1951 and named Ruffles by the locals) and L72 (born in 1986 and named Racer by the locals), respectively.

Photo by Erin Heydenreich, courtesy of The Center for Whale Research

2. The Southern Resident Killer Whales return to the San Juan Islands altogether on June 3, 2008 for mating, hunting, and socializing. This photo includes members from all three resident pods. Notice the large, upright fins of the bulls, the smaller fins of the females, as well as the calf in the foreground next to its mother. This is a common sight in the wild, but a social opportunity denied all captive killer whales.

Photo by Ken Balcomb, courtesy of the Center for Whale Research

3. Transient killer whales attack and kill an adult bull steller sea lion in Washington State. Bull steller sea lions are roughly 1,800lbs larger than the average adult man, yet they remain easy prey for the larger, more intelligent killer whales.



Genealogy Courtesy of Northern Resident Orcas Blog

4. This is an example of a killer whale genealogy, which specifically charts Corky II's wild family: the A5 pod/A23 matriline of Northern Resident Killer Whales. The black boxes denote whales that hae died and their respective year of death. The white boxes denote Corky II's relatives that are still living and the gray box represents Corky II herself. Corky II's mother Stripe died in 2000. Her younger sister and brother (Ripple and Fife) are still living. Corky II's niece Midsummer produced a calf in 2009 named Fern, or A95, who is not listed in this genealogy. None of Corky II's calves have survived.

Photo courtesy of the Orca Network

5. Southern Resident killer whales are seperated from one another during the Penn Cove capture, which commenced on August 8, 1970. Those taken included Lolita, Winston, Lil Nootka, Jumbo, Chappy, Clovis, and Ramu IV. Lolita is the only one to still survive as of September 1, 2011. The next longest lived Penn Cove capturee was Winston, who died in 1986 at SeaWorld San Diego of a heart attack.

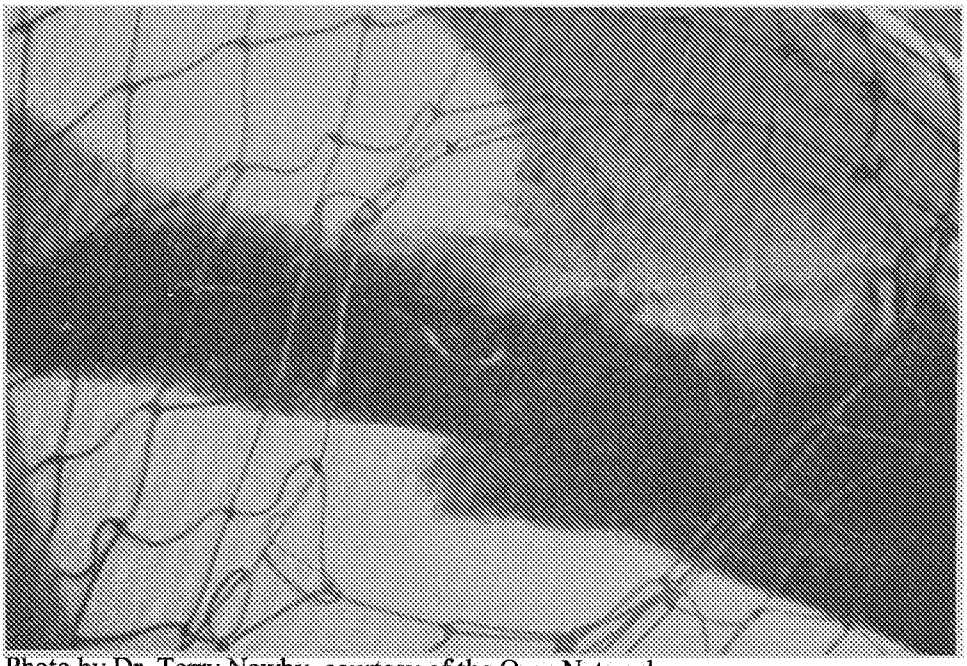


Photo by Dr. Terry Newby, courtesy of the Orca Network

6. A killer whale looks out from the nets at the Penn Cove capture as it is sold into captivity. Southern Resident Killer Whales lost an entire generation of young animals to the captive industry. Now, the wild population is endangered... their slow reproductive rate being one of the reasons.

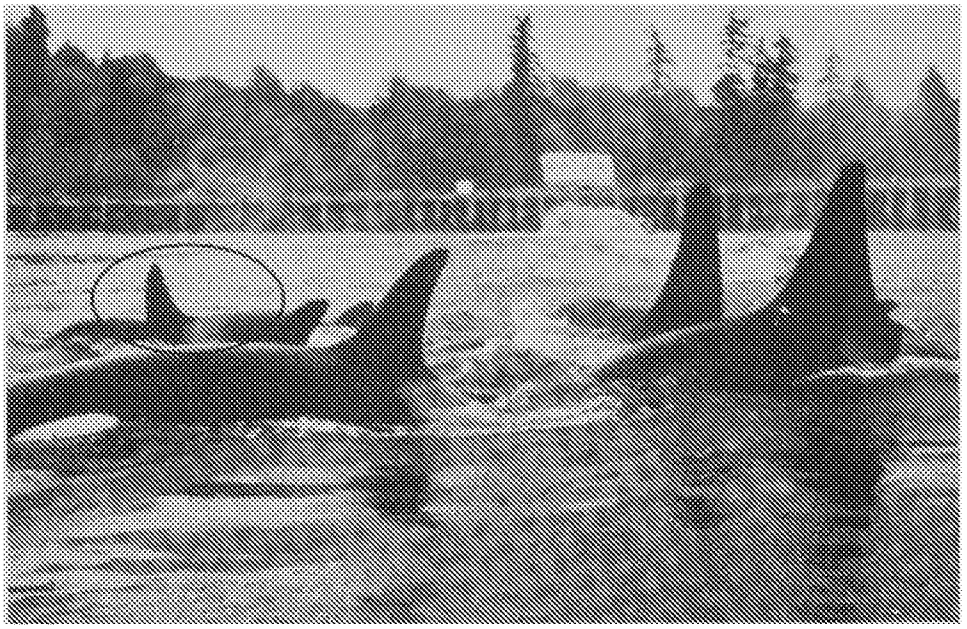


Photo courtesy of the Center for Whale Research

7. Southern Resident killer whales are captured in Yukon Harbor, WA on February 15, 1967. The animal circled in the back is J8, who is surviving as of September 1, 2011 at the estimated age of 78 years. Her fellow clan members captured that day were not so lucky. Three animals died during this capture and none of the animals taken from Yukon Harbor are alive today, including: Ramu, Skana, Kilroy, Kandu, and Katy. Ramu survived the longest and died at SeaWorld Orlando in January, 1982 of congestive heart failure – although SeaWorld reported the cause was simply "old age." He was 19.

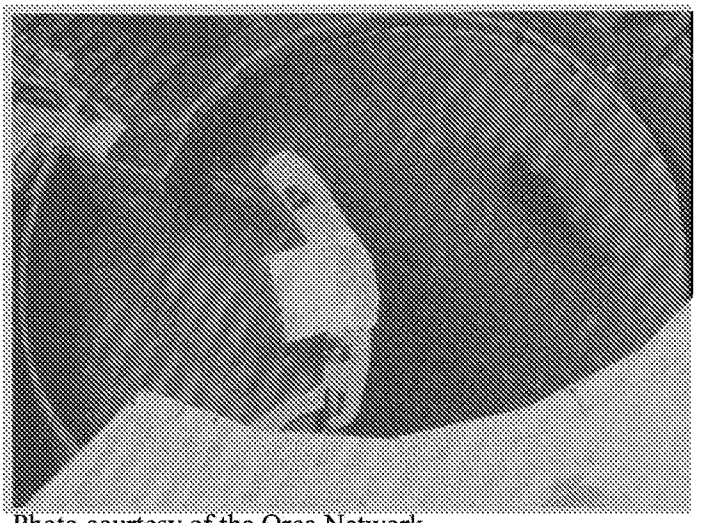


Photo courtesy of the Orca Network

8. Lolita swims in the murky waters of her tank. Note her size in relation to the tank, the permanent platform that impedes a straight line of travel, and the lack of a sufficient permanent shade structure. For these reasons, Lolita is described as the worst kept killer whale in the United States.

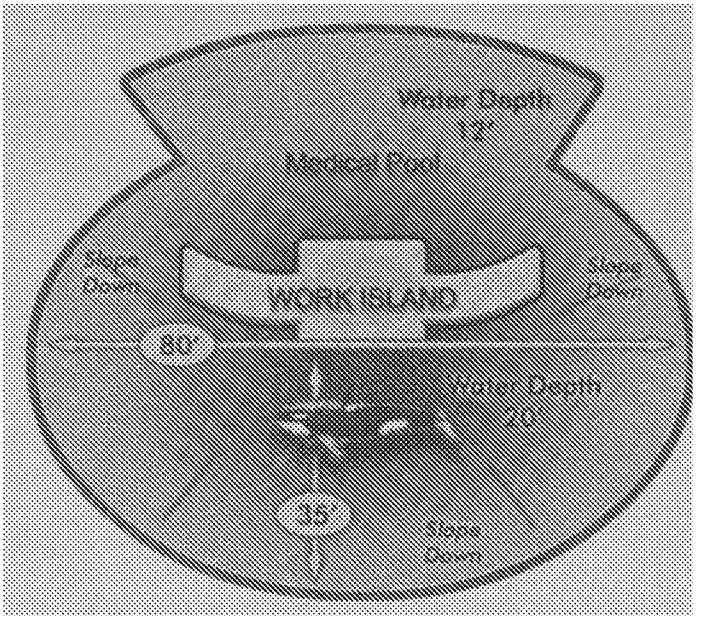


Diagram courtesy of Miamiseaprison.com

9. A pictorial representation of Lolita's tank with the actual measurements of the tank listed. Despite its abysmal conditions, APHIS has determined the tank exceeds the requirements of CFR Title 9.

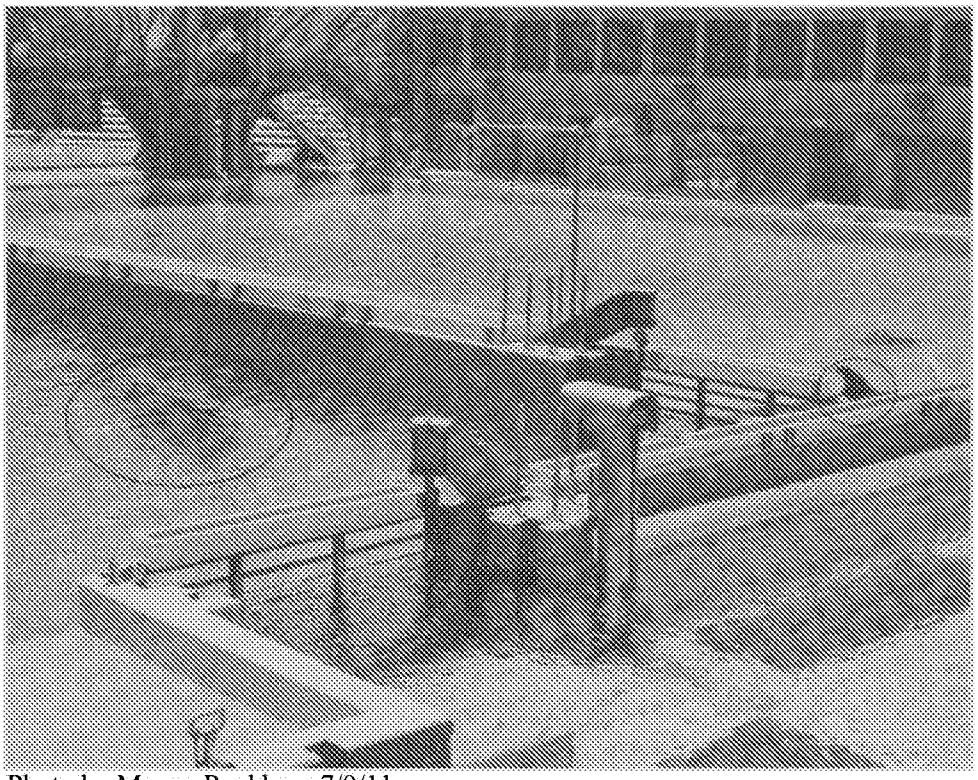


Photo by Megan Rechberg 7/9/11

10. Here, Kalia (circle to the right of the gate) and Kasatka (oval to the left of the gate) are separated. Kalia waited near the gate for her mother throughout the afternoon, but remained separated as her mother sunk below the surface on the other side of the gate. Also, note the lack of permanent shade structures to shelter the animals from the intense Southern California sun.

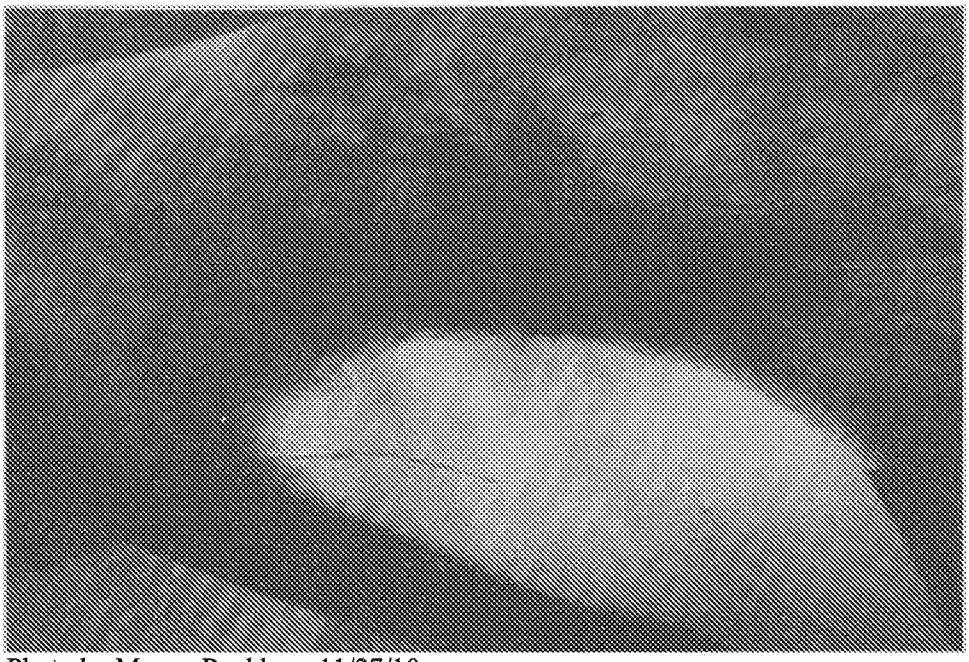


Photo by Megan Rechberg 11/27/10

11. Ulyses, the lone mature bull housed at SeaWorld San Diego, displays countless rake marks. Researchers theorize this is because he has no familial relation to the dominant females. The result: he is a low-ranking individual and subject to displays of dominance like constant tooth-raking.

Scan from the December 5, 1966 issue of the Lodi California News-Sentinel

12. Trainer Bob Shepherd puts his head in the original Shamu's mouth during a show. (This is the same animal that attacked and bit Annette Eckis five years later.) The caption claims that "Killer whales do not attack humans." This caption, which was presumably based on SeaWorld's statements to the reporter, demonstrates clear ignorance, indifference, or arrogance with respect to the dangers of interacting with captive orcas. Either way, it provides evidence that SeaWorld's primary historical concern has been entertainment and not trainer safety or respect for a dominant ocean predator.

Photo courtesy of Stefan Jacobs

13. Orky II lands on his trainer, John Sillick, during the Shamu Show on November 21, 1987 at SeaWorld San Diego. The park attributed the incident to a trainer "miscue." However, this was not the first time Orky II was involved in a trainer's injury. Sadly, Orky II died almost one year after the incident when he lost roughly half his body weight due to acute pneumonia. He was in his mid-twenties.

Photo courtesy of Tim Zimmerman

14. Twenty-two-foot long, 12,000lb Tilikum performs a side out maneuver at SeaWorld Orlando with a trainer during a show. Note how he dwarfs the trainer? If an animal like Tilly decides to attack, there really is no stopping it. It would be extremely arrogant or ignorant to think otherwise.

Photo courtesy of Tim Zimmerman

15. A trainer, with a long ponytail, sits on a slide out during a show prior to Dawn's death and gives Tilly a kiss on the tongue. Interestingly, this trainer appears to be Dawn Brancheau herself. If long ponytails are the issue, why did SeaWorld clearly allow trainers to have them? If Tilly is the issue, why allow trainers to put their heads so close to his mouth?

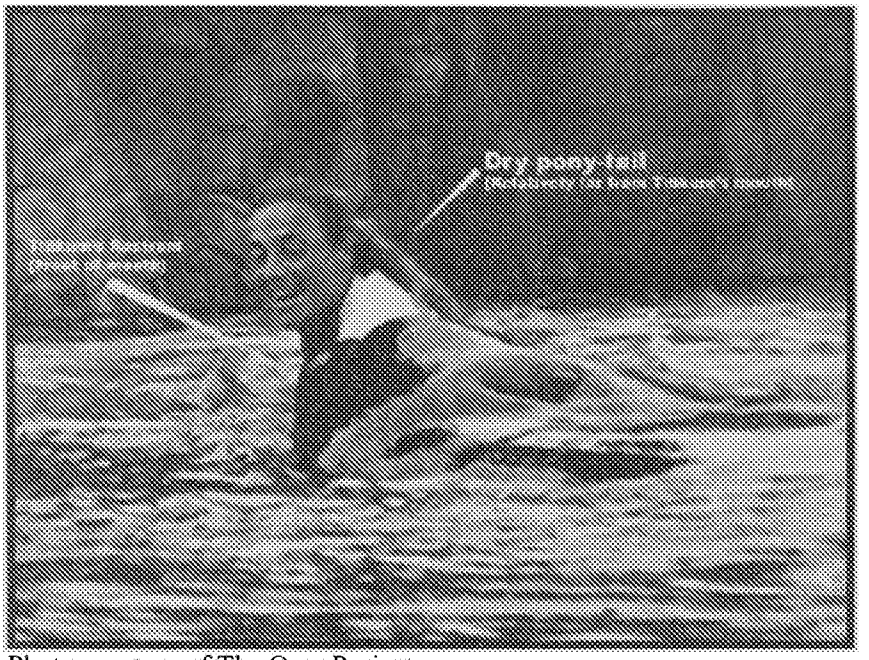


Photo courtesy of The Orca Project

16. Dawn Brancheau and Tilikum as seen in the Connell video just moments before her death on February 24, 2010. Dawn is seen laying on a slide out in just a few inches of water while Tilly approaches her from the deep end of the tank and grabs her left arm. Note that the end of her ponytail is nowhere near Tilly's mouth and is completely dry.

Photo by Estefania Luis Rodriguez, courtesy of Tim Zimmerman

17. Dawn Brancheau and Alexis Martinez pose together after a successful training session at Loro Parque. Dawn, as an experienced killer whale trainer, visited Loro Parque in September 2006 to help the local trainers learn SeaWorld protocol. Unfortunately, both were dead nearly three years later after being attacked by the very animals they cared so much for. It is time to reevaluate captive killer whales' conditions, if not for the animals, then for people like Alexis and Dawn who both suffered violent and tragic deaths.

Photo by Megan Rechberg 11/27/10

18. This is an example of the killer whale educational material available at the Shamu underwater viewing area in SeaWorld San Diego. While all of the information displayed on the signs was technically correct, the educators stationed near the viewing area often answered questions wrong or in a deceptive manner. (An example of such "deception" can be seen in the first paragraph of this sign. The sign indicates that dorsal fins come in many shapes and sizes: one such shape being "bent." Flopped over fins are exceedingly rare in wild animals and usually indicate trauma of some kind. However, this sign makes flopped over fins appear to be a normal characteristic of dorsal fins. In reality, this trait only occurs regularly in captivity.) There was no information available about endangered killer whales or any direct advice for assisting in the conservation of wild whales in general. Put simply, the "education" does not seem to presently outweigh the risks.

Photo by Brittney Lane on July 9, 2011

19. The author shares a moment with Corky II outside the Shamu Observation Tank at SeaWorld San Diego.

APPENDIX B: KILLER WHALES PRESENTLY ON DISPLAY IN THE UNITED STATES AS OF SEPTEMBER 1, 2011

Organized by Present Location and Time in Captivity Orca Name	Sex	Mother	Father	Ecotype/Origin	Size	Wild Caught/ Captive Born	Begin Time in Captivity	Present Location
Lolita	F	L25?	???	Southern Resident - L Pod	20 ft (2004)	WC	8/8/1970	Miami Seaquarium
Katina	F	???	???	Skardsfjara, Iceland	18 ft (2006)	WC	1978	SeaWorld Orlando
Tilikum	M	???	???	Berufjördur, Iceland	22.5 ft (2005)	WC	11/1983	SeaWorld Orlando
Kayla	F	Kenau	Orky II	Icelandic/Northern Res	20 ft (2005)	CB	11/26/1988	SeaWorld Orlando
Trua	M	Taku	Taku	3/4 Icelandic & 1/4 Southern Res	7 ft (2005)	CB	11/23/2005	SeaWorld Orlando
Nalani	F	Katina	Taku	Inbred Icelandic	7 ft (2006)	CB	9/18/2006	SeaWorld Orlando
Malia	F	Taima	Tilikum	3/4 Icelandic & 1/4 Transient	6 ft (2007)	CB	3/12/2007	SeaWorld Orlando
Makaio	M	Katina	Tilikum	Icelandic	7 ft (2010)	CB	10/9/2010	SeaWorld Orlando
Corky II	F	A23	???	Northern Resident - A5 Pod	19.7 ft (2009)	WC	12/27/1969	SeaWorld San Diego
Kasatka	F	???	???	Twiker, Iceland	17.3 ft (2009)	WC	1978	SeaWorld San Diego
Ulises	M	???	???	Reydarfjördur, Iceland	19.5 ft (2009)	WC	11/19/1980	SeaWorld San Diego
Orkid	F	Kandu V	Orky II	Icelandic/Northern Res	18.8 ft (2009)	CB	9/23/1988	SeaWorld San Diego
Nakai	M	Kasatka	Tilikum	Icelandic	14 ft (2006)	CB	9/1/2001	SeaWorld San Diego
Kalia	F	Kasatka	Keet	Icelandic & 1/25 Southern Res	12 ft (2006)	CB	12/21/2004	SeaWorld San Diego
Takara	F	Kasatka	Kotar	Icelandic/Southern Res	17.3 ft (2009)	CB	7/9/1991	SeaWorld Texas
Kyuquot	M	Haida II	Tilikum	Icelandic	22 ft (2009)	CB	12/24/1991	SeaWorld Texas
Keet	M	Kalina	Kotar	3/4 Icelandic & 1/4 Southern Res	20 ft (2008)	CB	2/2/1993	SeaWorld Texas
Unna	F	Katina	Tilikum	Icelandic	16 ft (2004)	CB	12/27/1996	SeaWorld Texas
Tuar	M	Kalina	Tilikum	3/4 Icelandic & 1/4 Southern Res	15 ft (2005)	CB	6/22/1999	SeaWorld Texas
Sakari	F	Takara	Tilikum	3/4 Icelandic & 1/4 Southern Res	6 ft (2010)	CB	1/7/2010	SeaWorld Texas
Shouka	F	Shamu e	Kim II	Icelandic	17 ft (2005)	CB	2/25/1993	Six Flags Discovery Kingdom

APPENDIX C: KILLER WHALES WHO HAVE DIED IN CAPTIVITY IN THE UNITED STATES (SEE NEXT PAGE)

*Compiled by Megan Rechberg after reviewing NMFS Marine Mammal Inventory Reports compiled by John Kielty of The Orca Project
*Organized by the date the animal began its life in captivity
*Animals in the tables with reported violent interactions with trainers are in bold (Note, many violent incidents with trainers are not reported to outside sources and therefore are not included in the table)
*Reports on file with the author

Orca Name	Sex	Mother	Father	Ecotype/Origin	Wild Caught/ Captive Born	Begin Captivity	Date of Death	Years in Captivity	Reported Cause of Death	Place of Death
Wanda	F	???	???	California	WC	11/18/1961	11/20/1961	0	Pneumonia; Gastroenteritis	Marineland of the Pacific
Namu	M	C5?	???	Northern Resident	WC	6/23/1965	7/9/1966	1	Drowning & Infection	Seattle Marine Aquarium
Shamu	F	J,K, or L Pod	???	Southern Resident	WC	10/31/1965	8/23/1971	6	Septicemia	Sea World San Diego
Kilroy	M	K Pod	???	Southern Resident	WC	Feb-67	9/23/1978	12	Gangrenous Pneumonia	Sea World San Diego
Katy	F	K Pod	???	Southern Resident	WC	2/15/1967	May-67	0	Unknown	Seattle Marine Aquarium
Kandu	F	K Pod	???	Southern Resident	WC	2/15/1967	6/16/1971	4	Pneumonia; Liver Necrosis	Sea World San Diego
Ramu	M	K Pod	???	Southern Resident	WC	2/15/1967	1/12/1982	15	Old Age	Sea World Orlando
Orky	F	I11 Pod	???	Northern Resident	WC	7/25/1967	Jul-69	2	Pneumonia; Influenza	Marineland of the Pacific
Lupa	F	???	???	Washington State	WC	Feb-68	9/6/1968	0	Pneumonia	New York Aquarium
Hugo	M	???	???	Southern Resident	WC	Feb-68	3/4/1980	12	Aneurysm Cerebral Artery	Miami Seaquarium
Bonnie	F	A5 Pod	???	Northern Resident	WC	Apr-68	8/15/1968	0	Heart Failure	Marine World Africa, USA
Corky	M	A5 Pod	???	Northern Resident	WC	Apr-68	Dec-70	3	Mediastinal Abscess	Marineland of the Pacific
Orky II	M	A5 Pod	???	Northern Resident	WC	5/10/1968	9/26/1988	20	Acute Bronchopneumonia Nephropathy	Sea World San Diego

No Name	F	Bonnie	???	Northern Resident	CB	Apr-69	Unknown	Unknown	Unknown	Seattle Marine Aquarium
Kenny	M	A25 Pod	???	Northern Resident	WC	12/11/1969	May-72	2	Pneumonia	Marineland of the Pacific
Patches	M	A25 Pod	???	Northern Resident	WC	12/12/1969	Aug-71	2	Mediastinal Abscess; Salmonellosis	Marineland of the Pacific
Nepo	M	A25 Pod	???	Northern Resident	WC	12/15/1969	7/10/1980	11	Acute Bronchopneumonia	Marine World
Yaka	F	A8 Pod	???	Northern Resident	WC	12/15/1969	10/29/1997	28	Pleuritis/Pneumonia	Marine World Africa, USA
No Name	*	???	???	Washington State	WC	Feb-70	Unknown	Unknown	Unknown	Seattle Marine Aquarium
Nootka	F	T2	???	Transient	WC	Mar-70	3/13/1990	20	Pyogranulomatous; Pneumonia	SeaWorld San Diego
Lil Nootka	M	J,K, or L Pod	???	Southern Resident	WC	8/8/1970	3/18/1971	1	Asphyxiation	Sea-Arama Inc, TX, USA
Winston	M	J,K, or L Pod	???	Southern Resident	WC	8/8/1970	4/28/1986	16	Chronic Cardiovascular Failure	SeaWorld San Diego
Kandu III	F	L Pod	???	Southern Resident	WC	Aug-71	Jun-75	4	Uraemia-Nephritis	SeaWorld San Diego
Kona	F	L Pod	???	Southern Resident	WC	Aug-71	9/28/1977	6	Septicemia	SeaWorld San Diego
No Name	*	???	???	Washington State	WC	Nov-71	Unknown	Unknown	Unknown	Seattle Marine Aquarium
No Name	*	???	???	Washington State	WC	Nov-71	Unknown	Unknown	Unknown	Seattle Marine Aquarium
Canuck	M	J Pod	???	Southern Resident	WC	3/12/1972	Dec-74	3	Candidiasis	SeaWorld Orlando
Sandy	F	???	???	Washington State	WC	3/12/1973	Oct-77	5	Cerebral Haemorrhage	SeaWorld Orlando

Frankie	M	L Pod	???	Southern Resident	WC	Jul-73	1/29/1974	1	Influenza	Sea World San Diego
Kanduke	M	TT?	???	Transient	WC	8/16/1975	9/20/1990	15	Viral Leptomenigitis	Sea World San Diego
Gudrun	F	???	???	Icelandic	WC	Oct-76	2/25/1996	19	Septicemia	Sea World Orlando
Kenau	F	???	???	Icelandic	WC	10/25/1976	8/6/1991	15	Hemorrhagic Bacterial Pneumonia	Sea World Orlando
No Name	M	Corky II	Orky II	Northern Resident	CB	2/28/1977	3/15/1977	0	Brain Damage	Marineland of the Pacific
Canuck II	M	???	???	Icelandic	WC	10/12/1977	8/2/1981	4	Chronic Kidney Disease	Sea World San Diego
Kona II	F	???	???	Icelandic	WC	10/12/1977	10/15/1987	10	Pulmonary Abscession	Sea World Orlando
Kanduv V	F	???	???	Icelandic	WC	10/12/1977	8/21/1989	12	Hemorrhage; Maxillary Bilateral Fracture	Sea World San Diego
Winnie	F	???	???	Icelandic	WC	10/12/1977	4/11/2002	24	GI Tract Obstruction	Sea World Texas
Shawn	F	???	???	Icelandic	WC	Jan-78	9/3/1979	2	Pneumonia	Sea World San Diego
Kahana	F	???	???	Icelandic	WC	Jan-78	5/14/1991	13	Severe Trauma; Intestinal Gangliconeuroma	Sea World Texas
Kotar	M	???	???	Icelandic	WC	Jan-78	Apr-95	17	Acute Hemorrhagic Pneumonia	Sea World Texas
Spooky	M	Corky II	Orky II	Northern Resident	CB	10/31/1978	11/10/1978	0	Pneumonia; Colitis	Marineland of the Pacific
Surfer Girl	F	???	???	California	WC	5/26/1979	6/3/1979	0	Pneumonia. Kidney	Marine World Africa, USA

Vigga	F	???	???	Icelandic	WC	11/19/1980	8/14/2000	20	Heart Failure; Brain/Lung Abcess; Pneumonia	Six Flags Marine World
Bjossa	F	???	???	Icelandic	WC	11/19/1980	10/8/2001	21	Chronic Bronchopneumonia	SeaWorld San Diego
Kiva	F	Corky II	Orky II	Northern Resident	CB	6/18/1982	8/3/1982	0	Respiratory Failure	Marineland of the Pacific
Nootka IV	F	???	???	Icelandic	WC	Oct-82	9/13/1994	12	Pneumonia; Septicemia	SeaWorld Orlando
Haida II	F	???	???	Icelandic	WC	Oct-82	Aug-01	19	Necrosis of Cerebrum/ Fungal Infection	SeaWorld Texas
Samoa	F	???	???	Icelandic	WC	Nov-83	3/14/1992	8	Myocotic Meningoencephalitis	SeaWorld Texas
No Name	F	Corky II	Orky II	Northern Resident	CB	7/22/1985	8/20/1985	0	Asphyxiation	Marineland of the Pacific
Katina	F	Katina	Winston	Icelandic/Southern Res	CB	9/26/1985	10/4/2010	25	Acute Bacterial Septicemia	SeaWorld Orlando
Baby Shamu II	F	Kenau	Winston	Icelandic/Southern Res	CB	1/5/1986	1/16/1986	0	Heart Defect	SeaWorld San Diego
Kateri na	F	Katina	Kandu ke	Icelandic/Transient	CB	11/4/1988	5/5/1999	11	Severe Suppurative Hemorrhage	SeaWorld Texas
Taima	F	Gudrun	Kandu ke	Icelandic/Transient	CB	7/11/1989	6/6/2010	21	Peracute Uterine Prolapse	SeaWorld Orlando
Splash	M	Nootka V	Kandu VII	Icelandic	CB	8/15/1989	4/5/2005	16	Acute Perforating Gastric Ulceration	SeaWorld San Diego

Katina	Tilikum	Icelandic	CB	9/9/1993	10/17/2007	14	Severe Multifocal Interstitial Pneumonia	SeaWorld Texas
Gudrun	Tilikum	Icelandic	CB	12/31/1993	4/1/1996	2	Suppurative Encephalitis	SeaWorld Orlando
Haida II	Tilikum	Icelandic	CB	11/20/1994	12/28/1994	0	Pneumonia Multifocal Pyogranulomatous	SeaWorld Texas
Taima	Tilikum	3/4 Icelandic & 1/4 Transient	CB	5/14/1998	9/7/2010	12	Acute Intestinal/ Mesentric Vol	SeaWorld San Diego
Kayla	Keet	5/8 Icelandic & 3/8 Southern Res	CB	10/9/2005	6/15/2008	3	Acute Necrotizing Encephalitis	SeaWorld Texas