Keto & Tilikum Express the Stress of Orca Captivity

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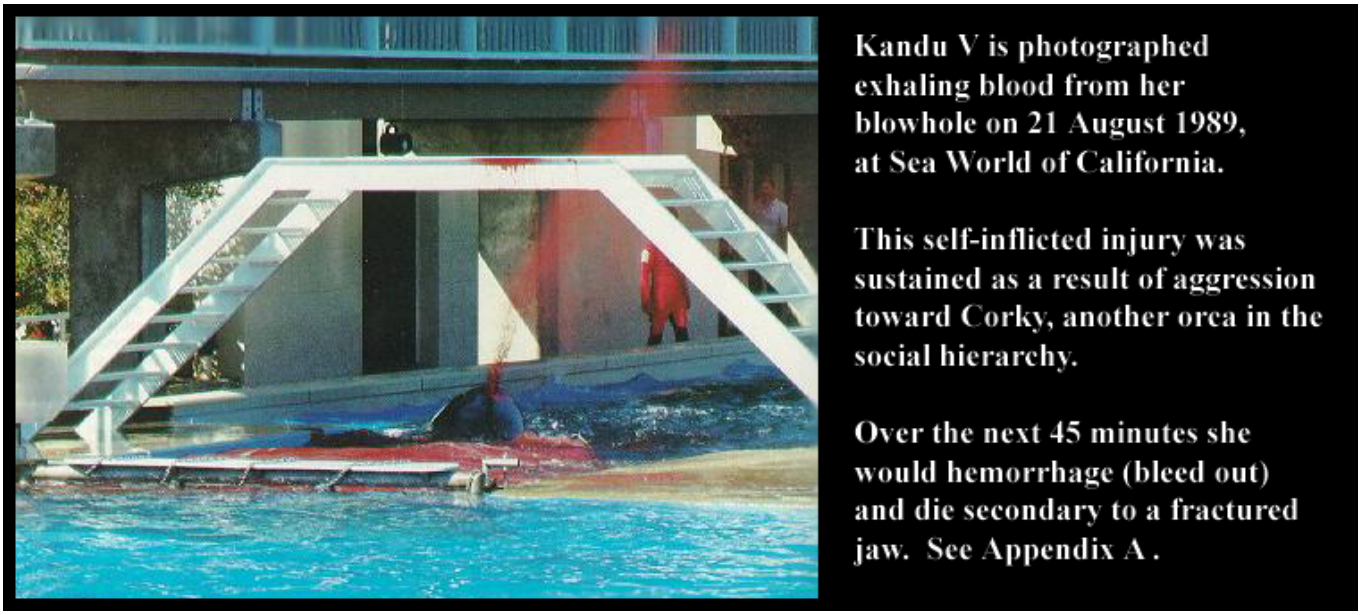
Keto & Tilikum Express the Stress of Orca Captivity

The practice of keeping killer whales in captivity has proven to be detrimental to the health and safety of animals and trainers alike. On Christmas Eve, 2009, trainer Alexis Martinez was killed by a male captive bred orca named Keto, who was on loan from Sea World to a facility called Loro Parque, in the Canary Islands, Spain. Two months later, on 24 February 2010, trainer Dawn Brancheau was killed by Tilikum, an animal involved with two previous human fatalities. Medical Examiner (ME) reports described massive trauma to both Dawn and Alexis. Neither death was accidental.

Alexis and Dawn at Loro Parque. ME reports for both trainers describe massive trauma. Neither death was an accident. Keto killed Alexis via "mechanical asphyxiation due to compression and crushing of the thoracic abdomen." In regard to Dawn's injuries, ME Joshua Stephanie, MD, wrote in the offical report, "Avulsion of the scalp, fracture of the 7th cervical vertebra, fracture of the sternum, complete avulsion of the left upper extremity, dislocation of the left elbow, dislocation of the left knee, fracture of the proximal left humerus, fracture of the mandible, hemoperitoneum (500 mL), liver lacerations, softening of the underlying spinal canal," and more. Despite the brutality to both trainers, these events have commonly been portrayed as "accidental" and drowning.

While orca captivity generates large profits for companies like Sea World (SW), life in a shallow concrete tank is greatly impoverished compared to the lives of their free-ranging counterparts. Trainer deaths, whale deaths, and numerous documented injuries to both trainers and whales provide evidence of several key issues related to killer whale captivity.

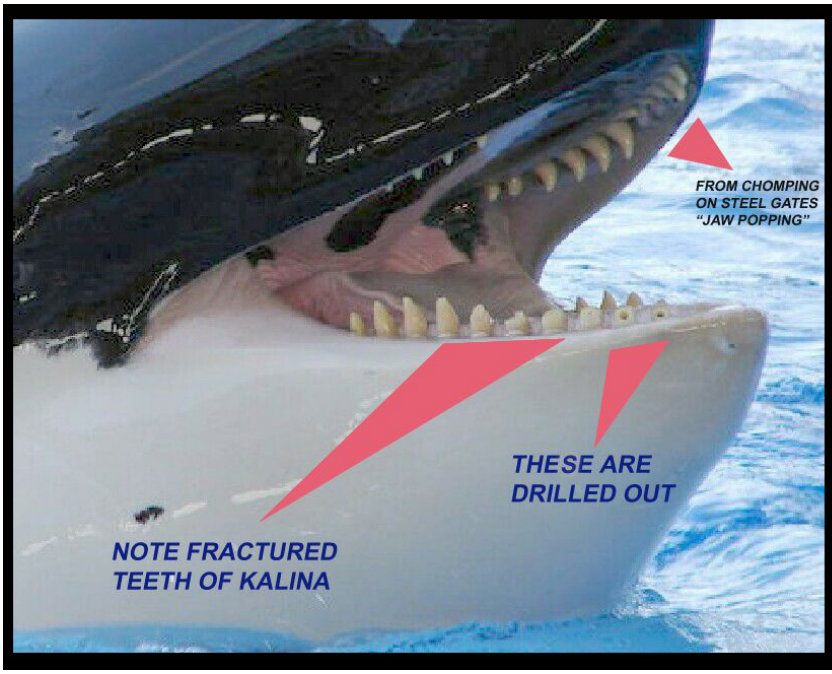
Tilikum is representative of the many social and health issues plaguing captive orcas. Typically spending their entire lives within tight family groupings, orcas captured from the wild, including Tilikum, have been traumatically extracted from the security, comfort and mentoring which these groupings 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. In one particularly brutal example, Kandu V, a female orca at Sea World of California (SWC), bled to death after 11.9 years (4332 days) in captivity when an artery was severed at the upper jaw (See Appendix). The wound was self-inflicted as she collided with another whale in a display of dominance. Over the next 45 minutes, and in view of the public, she slowly bled out, spouting blood from her blowhole until she died.



It was whale to whale aggression that resulted in cancellation of the "Believe" show immediately prior to Tilikum pulling Dawn Brancheau into the water at Sea World of Florida (SWF). This clash involved Kayla and the original "Baby Shamu," Kalina. Although this level of aggression usually causes reaction from the other whales in adjacent pools, it is unclear how this clash factored into Tilikum's choice to grab, thrash and dismember his trainer. Just four months later, in June of 2010, Kayla and Kalina were fighting again. This time, Kayla inflicted a significant laceration above Kalina's right eye, forcing yet another show cancellation. Kalina would die on 4 October 2010 at the age of 25 from "acute bacterial septicemia." It is not clear how bacteria entered her bloodstream.

Social strife and boredom accompanying orca captivity also contribute to broken teeth. Steel gates are the primary method of separating orcas prior to training sessions, shows, or when aggressive tensions exist between animals (e.g. Kayla and Kalina). It is common for separated whales to bite down on the horizontal metal bars, or to "jaw-pop" through the gates as they display aggression at each other. In addition, under-stimulated and bored animals also "chew" metal bars and mouth concrete pool corners, like the main stage at SWF. As a consequence, tooth fragments can sometimes be found on the pool bottoms following these displays. This breakage leaves the pulp of some teeth exposed.

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 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. (Kalina's reported cause of death, "acute bacterial septicemia," should make one ponder how bacteria entered her bloodstream. See Appendix A). Consequently, orcas at SW and other facilities, like Six Flags, often possess a significantly reduced number of viable teeth, making them poor candidates for release into the wild.

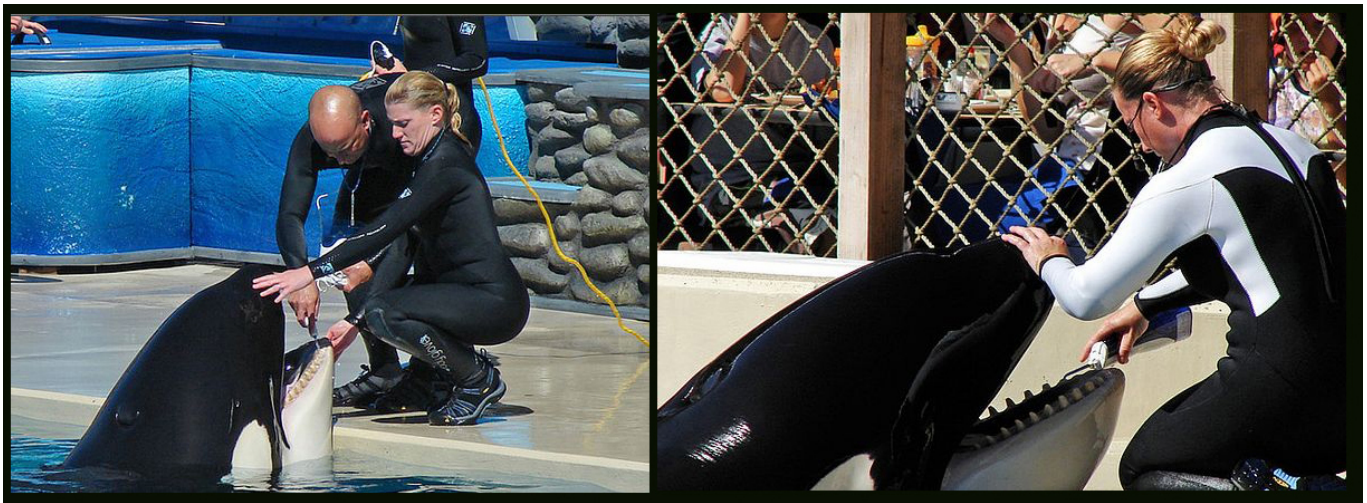


Left: Note the broken and drilled teeth of the now-deceased Sea World orca, Kalina. On 10/4/2010 she died suddenly at the age of 25 from "acute bacterial septicemia." It is unclear how the bacteria entered into her bloodstream. Kalina is better known to the world as the original "Baby Shamu," born 26 September 1985, in Orlando.

Prior to her death, and subsequent to this photograph, Kalina would eventually have four teeth extracted (LL1, LL2, LL3, LR4) and at least five teeth drilled (LR2, LR3, LR4, LR5, LL5). LL is "Lower Left."

In the medical field it is known that poor dentition can lead to a host of diseases including valvular heart disease, gingivitis, pneumonia, stroke, and heart attack. These open bore holes represent a direct route for pathogens to enter the blood stream where they can then be deposited into the tissue of various organs throughout the body, such as the heart or kidney. Unfortunately, orca necropsies are mostly done in-house, by park personnel, and under a relative cloak of secrecy. So despite the prevalence of poor teeth, it is not known what role they play in captive orca deaths. For example, many whales reportedly die of pneumonia. Could the cause of pneumonia be bacteria carried to the lungs from rotting food plugs or tooth decay? This is unclear due to insufficient research and lack of scrutiny. Along these lines, pathology reports, and other relevant documentation of the lives and deaths of captive orcas are poorly archived at the National Marine Fisheries Service (NMFS), a division of the National Oceanic and Atmospheric (NOAA), the federal agency tasked with tracking captive marine mammal data. Unfortunately, as a means of obfuscating relevant data, marine parks such as SW typically avoid attaching animal names with the cetacean records kept by the aforementioned agencies. Instead, by utilizing code numbers, marine industry claims are difficult to fully investigate.

[NOTE: Please see the attached Appendix A for captive orca birth, capture, and death data. This compiled spreadsheet reconstitutes missing and/or coded information contained in the NMFS's Marine Mammal Inventory Report (MMIR), and introduces a new statistic, "Mean Duration of Captivity," (MDC) measured in days for ease of comparison and computation.]



Captive orcas break their teeth on horizontal steel bars and concrete, sometimes exposing the pulp of the tooth. This pulp is drilled out via a modified "pulpotomy." Subsequently, the animals require lifelong daily teeth flushings to combat food plugging, as these open holes are a direct route for bacteria to enter the bloodstream. Left: Orkid. Right: Sumar (dec. 9/7/2010) Note: The pictured orcas are young, and the mouths shown are in relative good health. The prevalance of broken teeth increases with age. Tilikum, for example, has lost the majority of teeth on the lower jaw. The decimated jaws of captive orcas are a carefully managed topic from a public relations standpoint, with tooth flushing explained to visitors as "superior dental care."

Veterinary and animal care workers at marine parks are under considerable pressure to keep valuable captive assets, such as orcas, alive. As such, it is common practice to administer on-going prophylactic medications such as those that reduce stomach acid production and block histamine, like Tagamet. Stress-related ulcers are common in captive marine mammals and must be dealt with medically. Similarly, the use of antibiotics is often the immediate response to an animal appearing "off" or "slow," and at any given time one or more orcas may be receiving antibiotics.

According to a preliminary report prepared by the Investigative and Enforcement Services of USDA APHIS (US Department of Agriculture's Animal and Plant Health Inspection Service) and obtained via the Freedom of Information Act, Tilikum was on antibiotic and antifungal drugs for an "inflammatory issue" with an elevated white blood cell count beginning "about February 11" (2010) and during the time he pulled Ms. Brancheau to her death. Also in the report, "This whale had a similar issue last October that was treated and fully resolved. It is unknown where the inflammation was, but they had *ruled out the teeth using a thermography unit*, but were suspicious of the respiratory tract based on history of other whales with similar blood parameters and clinical signs."

Pills, such as antibiotics, are typically packed into the morning feeding sessions by pushing them through the gills of herring (fish). The deleterious effects of chronic antibiotic usage are well established, and include disruption of normal bacterial flora in the gut, malnutrition, and susceptibility of the host to opportunistic pathogens such as fungi and yeast. The long-term consequences of other commonly used medications at marine parks are poorly understood, as are the effects of a life spent in water treated with oxidative agents meant to kill E. coli and other pathogens. It is reasonable to expect that as public opinion shifts toward disfavoring killer whale captivity, the pressure on veterinary and animal care staff to utilize prophylactic medications to prevent future deaths will increase. Dead captive killer whales are bad public relations and they serve to fuel the anti-captivity movement.

Wild killer whales can swim a hundred miles daily as they socialize, forage, communicate, and breed. In stark contrast, with little horizontal or vertical space in their enclosures, captive orcas swim only limited distances, with most spending many hours surface resting. Consequently, a random visitor to SWF will almost certainly find Tilikum, and others, statically suspended and without significant movement for long periods. The resultant physical deconditioning amongst captives is poorly understood from a long-term health perspective, as few captive orcas live to old age; however, based upon animal and human studies, one can speculate that the impacts are anything but positive. More obvious are the drastic changes in dorsal fin architecture (bending) that accompany a life spent at the surface. *Dorsal collapse* is a phenomenon nearly exclusive to captivity as it is rarely seen in wild orcas. 100% of adult captive male dorsal fins have succumbed to gravity versus approximately one percent of free-ranging orcas.

Left: A Sea World trainer measuring the progressive bending of the dorsal fin of a captive orca (Kanduke, deceased 9/20/1990). Right: The straight dorsal of a wild killer whale (T20). Note: 100% of captive adult male orcas have collapsed dorsal fins, versus less than 1% in the wild.

Less understood are the consequences from increased ultraviolet (UV) radiation exposure to the skin, eyes, and immune systems as animals float motionless at the surface. Orcas in marine parks sometimes suffer from sunburn, and trainers or animal care staff will apply sun-block and black (colored) zinc oxide to the backs of those animals which show signs of burn, or who otherwise spend inordinate amounts of time surface resting. Furthermore, at least one serious trainer injury has been linked to a whale's poor visual acuity, possibly secondary to cataract formation. It is known that UV radiation exposure is a factor in the development of cataracts, especially in low latitude environments with elevated sun exposure. Compounding the issue, water in orca tanks is shallow and clear, offering no natural protection from the sun's harmful rays. Contrastingly, free-ranging orcas spend most of their time at higher latitudes, in darker water, and at greater depths, and none spend time looking up at humans with their heads "on deck."

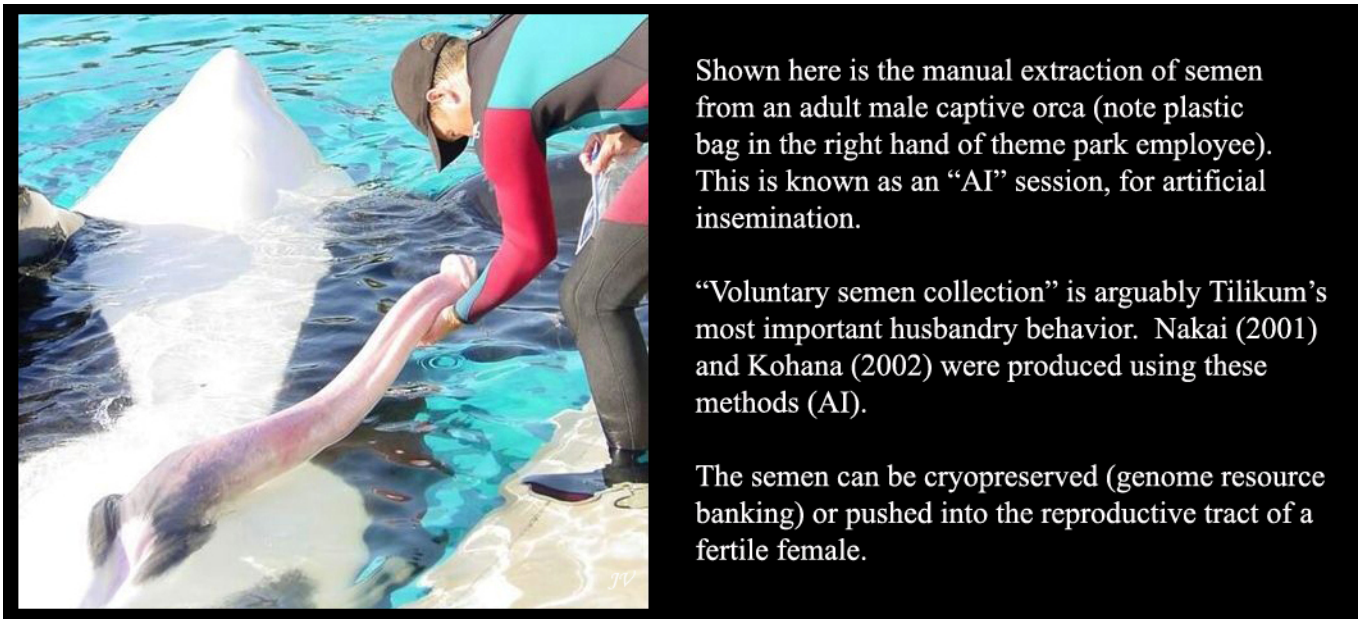
In the medical community it is also accepted that UV radiation can act as an immunosuppressant and can cause retinal damage, among other physiological risks. Unfortunately, little is known of the long-term effects on captive orcas exposed to the sun to such an unnatural extent. The USDA-APHIS, which is charged with enforcement of Animal Welfare Act (AWA) provisions such as protection from the weather and direct sunlight, has historically been ineffective in ensuring compliance with the numerous regulations designed to provide minimum standards of care for captive marine mammals.

Only 2 of the 7 pools at Shamu Stadium, SWF, are deeper than Tilikum is long (A & G pools)

Orcas are carnivores, not scavengers. In the wild they consume a diet of live (not dead) prey items depending on which cultural subset they come from. For example, New Zealand orcas are known to feed on sharks and rays, while Icelandic and Northwestern orcas eat herring and salmon. Still others feed on marine mammals such as sea lions, porpoise, and baleen whales. Although from diverse places of origin, orcas in captive environments are forced to eat a non-varied diet of carrion. At Sea World this consists of frozen-thawed whole fish, *Clupea harengus* (herring), *Thaleichthys pacificus* (smelt), and *Oncorhynchus gorbuscha* (pink salmon), at approximately 2-3% of their body weight each day. 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. It is not known how refrigeration and freezing of these fish impact the nutritional quality, nor is it known what long-term health consequences arise from feeding captive orcas food inconsistent with their culture. Additionally, since captives receive essentially the same diet every day, they are more susceptible to vitamin deficiencies from a lack of prey variety.

Marine parks such as Sea World tout their ability to provide environments adequate to keep orcas alive. *However, this claim is not supported by the evidence*. Approximately 157 orcas have died in captivity, not including stillborns and miscarriages. Based upon the MMIR data, and represented in Appendix A, we have calculated the mean duration of captivity (MDC) to be *less than nine years*. This is regardless of whether an orca was extracted from the ocean, or born at a theme park.

Globally, marine parks have enjoyed 60 live births since 1977. However, 32 of those animals (53%) are already deceased (Dec.). SW alone has had 28 live births, with nine deceased (32%), as are ten of the mothers. In the wild, successful calf-rearing is facilitated by mentoring mid-wives, family, and stable matrilines. Based on revised estimates by Olesiuk, Ellis and Ford, (2005), and regarding "Northern Resident" orcas, the mean age at first birth has been estimated to be 14 - 15 years. For comparison, captive orcas often become pregnant much earlier. In regard to wild female reproductive lifespan, "single calves are subsequently born at five-year intervals (from the mid-teens) over a [span] lasting about 25 years." Reproductive senescence (the equivalent of menopause) occurs around 40 years of age.



Giving birth at a young age comes with risks, including immature mothers refusing, or not knowing how, to properly nurse their calves. This is happening currently with a captive orca named Kohana, who is famous as SW's second AI calf. On loan from SW to Loro Parque, she has recently given birth at eight years of age, in October of 2010. Kohana is not nursing this young orca and it is not clear whether it will survive via bottle and tube feedings. At SWF, Taima was a notoriously poor mother as well. She died from a prolapsed uterus while giving birth to her fourth calf on 6 June 2010, at the age of 20. Keep in mind that killer whale gestation is approximately 18 months in duration, and to reiterate, wild Northern Resident calves are "born at five-year intervals."

Fathered by a transient bull named Kanduke (Dec. 9/20/1990, SWF) and an Icelandic mother Gudrun (Dec. 2/25/1996, SWF), Taima was a true hybrid, unknown in nature, being genetically half-transient and half-resident (transient and resident refer to two culturally and genetically distinct types of orcas). Was she too young at eight years of age to have Sumar (Dec. 9/7/2010, SWC)? It is known that she became very aggressive with him, and for his own protection he was shipped out of Orlando prior to his first birthday. Taima was also eventually banned from performing with trainers in the water, as she was deemed aggressive and unpredictable. As an aside, contrary to the common practice at marine parks of moving young whales to other parks and away from family, wild orcas typically spend their entire lives with family members who, among other things, assist mothers with calf-rearing (see Appendix B for a summary of Kalina's travel record to various parks).

These images of Keto, Tilikum, and Taku (deceased) illustrate dorsal collapse. In the ocean, lateral, torsional, and compressive forces generated by moving water typically sculpt erect dorsal fins. It is known that in humans, healthy connective tissue and muscle and bone will adapt to loading (perhaps at the local gym) by becoming stronger. In all likelihood, these collapsed dorsal fins are caused by increased hours of surface floating (or slow circle-swimming) and a removal of those forces. This process is accentuated in male orcas, whose fins grow much taller than females. Collapsed fins like those above, are very rare in the wild.

In light of Ms. Brancheau's horrific death, the recent focus of public discourse has been on the safety measures in place at marine mammal facilities, and future steps to prevent morbidity and mortality amongst the human keepers of captive orcas. Safety measures aside, the objective of this article is to identify several key issues related to the whales themselves. It is our 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 the Occupational Safety and Health Administration (OSHA). While parks such as SW should be credited for some of the early research on basic killer whale behavior and physiology, a review of the scientific literature suggests that very little new knowledge is being generated as a result of orca captivity.

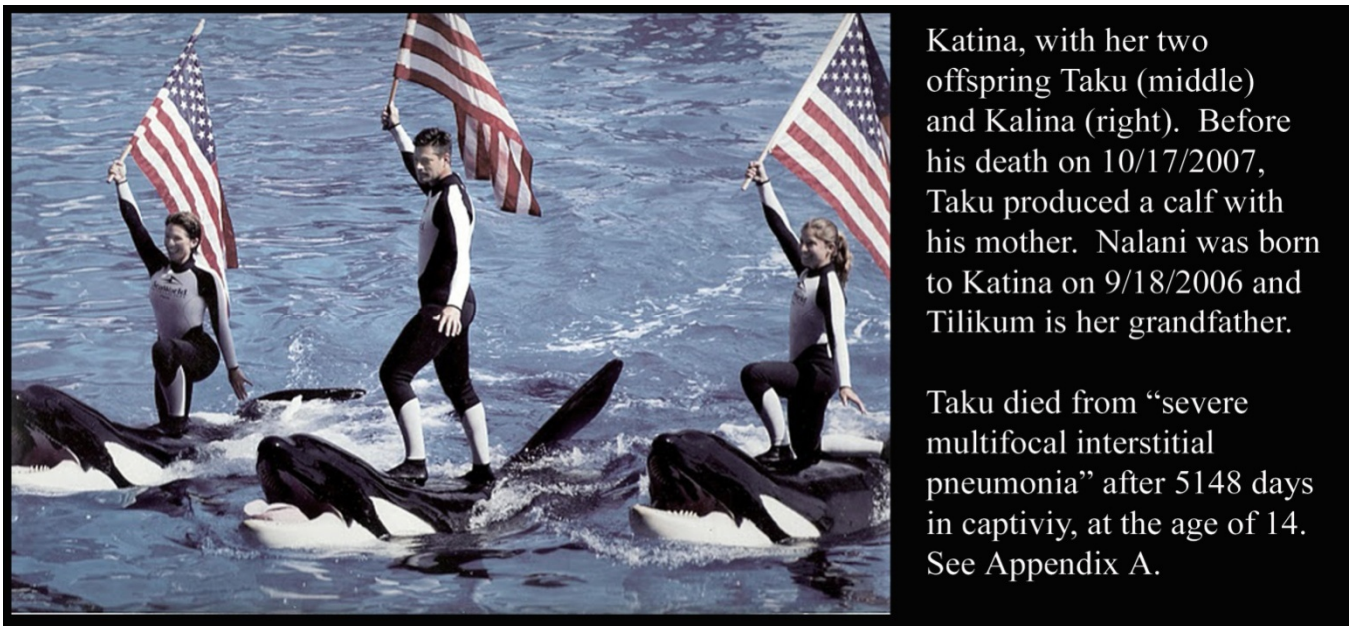
Additionally, the authors introduce a new statistic, the **Mean Duration of Captivity (MDC)**, which allows for the evaluation of lifespan in captivity. MDC and lifespan are the same for captive born orcas. We acknowledge that the MDC is not equivalent to lifespan for captured animals. However, it is a valid approximation based upon the historical preference of whale collectors to extract the younger orcas of a given clan or pod.

For our population of 152 killer whales that have lived and died in captivity, the **MDC** equals **2413 days** or **6.6 years**. This is a surprisingly low number, especially when compared with free-ranging orca longevity. We also acknowledge that husbandry procedures and veterinary care may have improved with time, and that the *MDC only addresses dead whales for which data exist (n=152).*

To incorporate both dead (n=152) and living whales (n=41) we utilized the *Kaplan-Meier (KM)* method of examining captive orca survival. Employing the median as most representative of the central tendency of the dataset, this method allows "credit" to be given for those whales that are still living, and helps predict orca survival in captivity. According to the records, there are 41 whales *currently living* at marine parks, and six (Corky, Lolita, Ulises, Katina, Kasatka, Tilikum) that have been living in captivity for greater than 28 years. It is not known what attributes have contributed to their exceptionally long lives (by captive longevity standards). However, expanding the overall population from 152 to 193, to include all whales still alive in captivity (including these long-lived whales), only produces a median duration of captivity of 3108 days or 8.5 years. Using KM, we can be *95% sure that the true median duration of captivity lies between 998 and 3250 days (2.7 and 8.9 years, respectively).*

Using “Baby Shamu's” landmark birth as a point when successful captive birthing began, 26 September 1985, the MDC differs little between the pre-Kalina (2453 days = 6.7 years, n=105) and post-Kalina birth cohorts (2323 days = 6.4 years, n=47). Though the data suggests that the post-Kalina birth cohort whales are living shorter lives, the MDC between the two is not statistically significant.

The time has come to evolve beyond keeping killer whales confined in small, unnatural spaces, purely for entertainment purposes. As we've demonstrated, their life spans are decreased and their behaviors altered from the stressors associated with confinement.



Katina, with her two offspring Taku (middle) and Kalina (right). Before his death on 10/17/2007, Taku produced a calf with his mother. Nalani was born to Katina on 9/18/2006 and Tilikum is her grandfather.

Taku died from “severe multifocal interstitial pneumonia” after 5148 days in captiviy, at the age of 14. See Appendix A.

One solution, which has already been proposed, and we support, would be to phase out captive populations naturally, via attrition. In short, stop breeding the animals and let those already in captivity live out their lives. Animals such as Lolita at the Miami Seaquarium, whose mother and family group are still alive, and whose teeth are in relatively good shape, may be candidates for a transitional reintroduction to the wild. However, whales with broken and bored teeth, such as Tilikum, and many others, are likely poor candidates for release back to their natural habitat without ongoing human intervention.

Jeffrey Ventre, MD, is a medical physician specializing in physical medicine and rehabilitation in New Orleans. John Jett, Ph.D, is a visiting research professor focusing on waterway management issues at Stetson University.

Both Drs Jett and Ventre worked as trainers at Sea World of Florida for a combined total of 12 years. They worked with several orcas, including Tilikum, and with Dawn Brancheau. After SeaWorld, they began professional careers that allow for this unique perspective. The authors thank Wendy Cooke, John Kielty, Samantha Berg, Carol Ray, Kim Ventre, Howard Garrett, Colleen Gorman, Chica, and Tim Zimmermann for their contributions to this paper.

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Appendix A: Captive Orca Longevity
Table I
Pre-Kalina Mortalities: Orcas Entering Captivity prior to 9-26-85

Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Ahab	M	10/1968	1974	1,921	15	Unknown	US Navy Hawaii
Benkei	M	02/26/1979	1989	3,597	10	Acute Pneumonia	Nanki Adventure World, Japan
Benkei II (Ushikawa)	M	10/1980	07/1983	1,006	3	Malignant Lymphoma	Nanki Adventure World, Japan
Benkei III	M	02/1982	12/1983	665	2	Unknown	Private Residence Japan
Betty	F	10/1978	09/08/1987	3,264	9	Pneumonia	Marineland Antibes, France
Bjossa	F	11/19/1980	10/08/2001	7,629	21	Chronic Bronchopneumonia	SeaWorld of California, USA
Bonnie	F	04/1968	08/15/1968	134	0	Heart Failure	Marine World Africa USA, Redwood City, CA
Calypso	F	12/11/1969	12/1970	355	1	Unknown	Marineland Antibes, France
Canuck	M	03/12/1972	12/1974	989	3	Candidiasis	SeaWorld of Florida, USA
Canuck II	M	10/12/1977	08/02/1981	1,391	4	Chronic Kidney Disease	SeaWorld of California, USA
Caren (Calen)	F	11/1979	05/04/1987	2,745	8	Agranulocytosis	Kamogawa SeaWorld, Japan
Chappy	M	08/08/1970	04/1974	1,334	4	Periostitis of Lumbar Bone	Kamogawa SeaWorld, Japan
Chi	F	02/26/1979	05/1979	65	0	Unknown	Taiji Whale Museum, Japan
Chimo	F	03/1970	11/02/1972	971	3	Pneumonia, Streptococcal Septicaemia, Chediak-Higashi-Syndrome	Sealand of the Pacific, Canada
Clovis	M	08/08/1970	02/1973	909	2	Myositis	Marineland Antibes, France
Corky	M	04/1968	12/1970	970	3	Mediastinal Abscess	Marineland of the Pacific, CA, USA
Corky II's Calf (No Name)	M	02/28/1977	03/15/1977	15	0	Brain Damage	Marineland of the Pacific, CA, USA
Corky II's Calf (No Name)	F	07/22/1985	08/20/1985	28	0	Asphyxiation	Marineland of the Pacific, CA, USA
Cuddles	M	10/1968	04/1974	2,011	6	Streptococcal Mediastinal Abscess	Dudley Zoo, England
Dzul-Ha (Shamu)	M	07/1979	1983	1,281	4	Unknown	Aquarama on Parade, Mexico
Finna	M	11/19/1980	10/06/1997	6,166	17	Pneumonia	Vancouver Aquarium, Canada
Frankie	M	07/1973	01/29/1974	213	1	Influenza	SeaWorld of California, USA
Freyja (Patty)	F	11/1984	09/16/1987	1,051	3	Acute Enteritis	Kamogawa SeaWorld, Japan
Gudrun	F	10/1976	02/25/1996	7,089	19	Septicemia, Bacteremia associated w/ Endomyometritis	SeaWorld of Florida, USA
Haida	M	10/1968	10/03/1982	5,115	14	Lung Infection	Sealand of the Pacific, Canada
Haida II	F	10/1982	08/2001	6,880	19	Necrosis of Cerebrum/ Fungal Infection	SeaWorld of Texas, USA
Hoi Wai (Peanuts) (Suzie Wong)	F	10/1977	04/21/1997	7,145	20	Severe Intestinal Blood Loss	Ocean Park, Hong Kong
Hugo	M	02/1968	03/04/1980	4,416	12	Aneurysm Cerebral Artery	Miami Seaquarium, Florida, USA
Hyak II (Tung-Jen)	M	04/1968	02/16/1991	8,356	23	Pneumonia	Vancouver Aquarium, Canada
Jumbo	M	08/08/1970	07/1974	1,424	4	Liver Dysfunction	Kamogawa SeaWorld, Japan
Junior	F	11/1984	06/01/1994	3,502	10	Brain Damage	Marineland of Canada

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Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Kahana	F	1978	05/14/1991	4,881	13	Severe Trauma, Intestinal Ganglioneuroma	SeaWorld of Texas, USA
Kandu	F	02/15/1967	06/16/1971	1,582	4	Pneumonia, Liver Necrosis	SeaWorld of California, USA
Kandu II	M	08/1971	10/1979	2,982	8	Pneumonia	Marineland of Canada
Kandu III	F	08/1971	06/1975	1,401	4	Uraemia-Nephritis	SeaWorld of California, USA
Kandu V	F	10/12/1977	08/21/1989	4,332	12	Hemorrhage; Maxillary Bilateral Fracture	SeaWorld of California, USA
Kandu VII	M	11/1984	12/21/2005	7,720	21	Cancer	Marineland of Canada
Kanduke (Kandu IV)	M	08/16/1975	09/20/1990	5,513	15	Viral Leptomenigitis	SeaWorld of Florida, USA
Kandy	F	08/1973	11/16/1973	105	0	Acute Pneumonia	Marineland of Canada
Katy	F	02/15/1967	05/1967	76	0	Unknown	Seattle Marine Aquarium, WA, USA
Kenau	F	10/25/1976	08/06/1991	5,400	15	Hemorrhagic Bacterial Pneumonia	SeaWorld of Florida, USA
Kenny	M	12/11/1969	05/1972	876	2	Pneumonia	Marineland of the Pacific, CA, USA
Kianu (Clyde)	F	05/09/1968	06/1980	4,405	12	Gastrointestinal Disease	Nanki Adventure World, Japan
Kilroy	M	02/1967	09/23/1978	4,250	12	Gangrenous Pneumonia	SeaWorld of California, USA
Kim (Oum)	M	06/1976	07/24/1982	2,244	6	Lung Abscess	Marineland Antibes, France
Kim II	M	10/1982	11/23/2005	8,453	23	Pneumonia	Marineland Antibes, France
King	M	11/1979	10/04/1983	1,434	4	Acute Pneumonia	Kamogawa SeaWorld, Japan
Kiva	F	06/18/1982	08/03/1982	45	0	Respiratory Failure	Marineland of the Pacific, CA, USA
Kona	F	08/1971	09/28/1977	2,248	6	Septicemia. Also reported as Pulmonary Abscession	SeaWorld of California, USA
Kona II	F	10/12/1977	10/15/1987	3,655	10	Pulmonary Abscession	SeaWorld of Florida, USA
Kotar	M	1978	04/1995	6,299	17	Acute Hemorrhagic Pneumonia	SeaWorld of Texas, USA
Lil Nooka	M	08/08/1970	03/18/1971	225	1	Asphyxiation	Sea-Arama Inc, TX, USA
Lupa	F	02/1968	09/06/1968	215	1	Pneumonia	New York Aquarium, USA
Magnus	M	10/26/1977	12/18/1977	52	0	Agranulocytic Anaemia	Harderwijk Dolphinarium, Netherlands
Mamuk	M	10/15/1968	06/14/1974	2,070	6	Acute Streptococcal Septicemia	Sea-Arama Inc, TX, USA
Milagro	M	08/08/1985	02/10/1991	2,013	6	Unknown	Acuario Mundo Marino, Argentina
Miracle	F	08/02/1977	01/1982	1,615	4	Drowning	Sealand of the Pacific, Canada
Moby Doll	M	07/16/1964	10/09/1964	83	0	Drowning. Skin Disease.	Vancouver Aquarium, Canada
Namu	M	06/23/1965	07/09/1966	381	1	Drowning. Infection- Clostridium Perfrigens.	Seattle Marine Aquarium, WA, USA
Nandu	M	11/1983	03/02/1988	1,587	4	Adrenal Gland Tumor	Aquarama Sao Paulo, Brazil
Natsidalia	M	04/1968	11/1968	210	1	Heart failure	Pender Harbour, BC, Canada
Nemo	M	10/1981	11/17/1986	1,872	5	Thrombocytosis	Windsor Safari Park, England

Appendix A: Captive Orca Longevity
Table I
Pre-Kalina Mortalities: Orcas Entering Captivity prior to 9-26-85

Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Nepo	M	12/15/1969	07/10/1980	3,863	11	Acute Bronchopneumonia	Marine World Africa USA, Redwood City, CA
Neptune	M	10/1981	06/01/1983	610	2	Appendicitis	Clacton Pier, UK
No Name	M	10/26/1978	02/1979	100	0	Heart Attack	Saedyrasafnid Aquarium, Iceland
No Name	F	10/26/1978	02/1979	100	0	Pneumonia	Saedyrasafnid Aquarium, Iceland
No Name	F	02/26/1979	03/31/1979	35	0	Birth Complications. Delivered a stillborn calf.	Nanki Adventure World, Japan
No Name	F	02/26/1979	04/28/1979	62	0	Nutritional Disorder	Nanki Adventure World, Japan
No Name	F	11/1979	01/1980	65	0	Acute Enterotoxaemia	Marineland of Canada
No Name	M	10/1981	12/11/1981	70	0	Traumatic Shock. Ruptured Kidney	Clacton Pier, UK
No Name	M	02/1982	06/01/1982	120	0	Pneumonia	Taiji Whale Museum, Japan
No Name	M	10/1982	05/27/1983	241	1	Haemophilia	Sealand of the Pacific, Canada
No Name	M	11/1984	01/1985	65	0	Neck Injury	Saedyrasafnid Aquarium, Iceland
No Name	F	04/1969	Unknown	Unknown	Unknown	Unknown	Seattle Marine Aquarium, WA, USA
No Name	*	02/1970	Unknown	Unknown	Unknown	Unknown	Seattle Marine Aquarium, WA, USA
No Name	*	11/1971	Unknown	Unknown	Unknown	Unknown	Seattle Marine Aquarium, WA, USA
No Name	*	11/1971	Unknown	Unknown	Unknown	Unknown	Seattle Marine Aquarium, WA, USA
No Name	F	11/1981	Unknown	Unknown	Unknown	Unknown	Marineland of Canada
Nootka (Knootka)	F	03/1970	03/13/1990	7,317	20	Pyogranulomatous; Pneumonia	SeaWorld of California, USA
Nootka II	M	08/1973	05/1974	275	1	Ruptured Aorta	Sealand of the Pacific, Canada
Nootka III	M	08/16/1973	05/1976	991	3	Perforated Post-Pyloric Ulcer. Abscess in Gastrointestinal Tract	Sealand of the Pacific, Canada
Nootka IV	F	10/1982	09/13/1994	4,365	12	Pneumonia; Septicemia	SeaWorld of Florida, USA
Nootka V	F	11/1981	01/08/2008	9,569	26	Unknown	Marineland of Canada
Orky	F	07/25/1967	07/1969	706	2	Pneumonia. Influenza	Marineland of the Pacific, CA, USA
Orky II	M	05/10/1968	09/26/1988	7,441	20	Acute Bronchopneumonia Nephropathy	SeaWorld of California, USA
Patches	M	12/12/1969	08/1971	599	2	Mediastinal Abscess. Salmonellosis.	Marineland of the Pacific, CA, USA
Ramu	M	02/15/1967	01/12/1982	5,446	15	Old Age	SeaWorld of Florida, USA
Ramu II	M	04/1969	05/21/1970	415	1	Unknown	Marineland, Australia
Ramu IV	M	08/08/1970	08/1971	358	1	Unknown	Marineland, Australia
Ruka (Orca)	F	10/1981	03/29/2000	6,758	18	Traumatic Shock	Nanki Adventure World, Japan
Sacchi	F	02/1982	04/1984	790	2	Pneumonia	Enoshima Aquarium, Japan
Sacchi's Calf (No Name)	M	05/01/1982	05/11/1982	10	0	Brain Abscess	Enoshima Aquarium, Japan
Samoa	F	11/1983	03/14/1992	3,060	8	Mycotic Meningoencephalitis	SeaWorld of Texas, USA

Appendix A: Captive Orca Longevity
Table I
Pre-Kalina Mortalities: Orcas Entering Captivity prior to 9-26-85

Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Sandy	F	03/12/1973	10/1977	1,660	5	Cerebral Haemorrhage	SeaWorld of Florida, USA
Scarred Jaw Cow	F	03/1970	05/15/1970	74	0	Malnutrition	Pedder Bay, BC, Canada
Shamu	F	10/31/1965	08/23/1971	2,124	6	Septicemia	SeaWorld of California, USA
Shawn	F	01/1978	09/03/1979	607	2	Pneumonia	SeaWorld of California, USA
Skana (Walter)	F	02/15/1967	10/05/1980	4,978	14	General Mycotic Infection	Vancouver Aquarium, Canada
Spooky	M	10/31/1978	11/10/1978	10	0	Pneumonia, Colitis	Marineland of the Pacific, CA, USA
Surfer Girl	F	05/26/1979	06/03/1979	7	0	Pneumonia. Kidney failure. Perforated Gastric Ulcer	Marine World Africa USA, Redwood City, CA
Tai	M	02/26/1979	06/1982	1,191	3	Unknown	Taiji Whale Museum, Japan
Taiji	M	12/1978	12/1978	5	0	Harpoon Wound	Taiji Whale Museum, Japan
Tula	M	07/1968	10/1968	90	0	External Fungus	Harderwijk Dolphinarium, Netherlands
Vigga	F	11/19/1980	08/14/2000	7,210	20	Heart Failure, Brain/Lung Abscess, Pneumonia	Six Flags Marine World, CA, USA
Wanda (Newport)	F	11/18/1961	11/20/1961	2	0	Pneumonia, Gastroenteritis	Marineland of the Pacific, CA, USA
Whale (Wally)	F	08/08/1970	10/04/1971	421	1	Heart Failure	Munchen Aquarium, Germany
Winnie (Frya)	F	10/12/1977	04/11/2002	8,950	24	GI Tract Obstruction	SeaWorld of Texas, USA
Winston (Ramu)	M	08/08/1970	04/28/1986	5,744	16	Chronic Cardiovascular Failure	SeaWorld of California, USA
Yaka	F	12/15/1969	10/29/1997	10,181	28	Pleuritis/Pneumonia From Upper Respiratory Infection	Marine World Africa USA, Vallejo, CA
Zero	*	09/01/1972	09/15/1972	14	0	Unknown	Kamogawa SeaWorld, Japan

Table I: PRE-KALINA Notes:

The preceding table (Table I) does not include stillborn calves, miscarriages or other unsuccessful pregnancies that occurred during captivity. Orca mortalities from capture operations are not included.

110 orcas that entered captivity on or before 09/25/1985 are shown. Five orcas with an unknown duration of captivity are removed for the purpose of MDC calculations.

(n=105)

Where estimated dates were required due to insufficient historical data, values were calculated using the following criteria:
If day of month is not known: default day is "01" (1st day of month).
If month is not known: default month is "01" (January).

*Gender unknown

The data utilized in this report was obtained from “The Orca Project Database” at www.theorcaproject.com which was compiled from multiple sources including National Marine Fisheries Service (NMFS) Marine Mammal Inventory Reports (MMIRs), marine mammal publications, websites, newspaper and news archives, government oversight agencies and marine mammal park documents and is believed to be accurate as of the date of publication.

Appendix A: Captive Orca Longevity
Table II
Post-Kalina Mortalities: Orcas Entering Captivity after 9-25-85

Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Ai (Al)	F	10/1989	08/25/1995	2,155	6	Candidiasis	Nanki Adventure World, Japan
Algonquin	M	12/18/1999	08/13/2002	971	3	Twisted Intestine	Marineland of Canada
April	F	04/07/2004	05/2004	24	0	Malnutrition	Marineland of Canada
Asuka	F	02/07/1997	09/19/2007	3,874	11	Unknown	Sea Paradise, Japan
Athena	F	08/08/2004	04/2009	1,699	5	Unknown	Marineland of Canada
Baby Shamu II	F	01/05/1986	01/16/1986	11	0	Heart Defect	SeaWorld of California, USA
Belen (Bethlehem)	F	01/06/1988	02/04/2000	4,411	12	Unknown	Acuario Mundo Marino, Argentina
Bjossa's Calf (No Name)	F	11/13/1988	12/04/1988	21	0	Malnutrition	Vancouver Aquarium, Canada
Bjossa's Calf (No Name)	F	03/08/1995	03/08/1995	0	0	Ruptured Umbilical Cord. Died minutes after birth.	Vancouver Aquarium, Canada
Goro	M	10/1985	01/21/2005	7,055	20	Acute Pneumonia	Nanki Adventure World, Japan
Haida II's Calf (No Name)	*	11/20/1994	12/28/1994	38	0	Pneumonia Multifocal Pyogranulomatous W/Gram+Filamentous	SeaWorld of Texas, USA
Halyn	F	10/09/2005	06/15/2008	982	3	Acute Necrotizing Encephalitis	SeaWorld of Texas, USA
Hudson	M	09/15/1998	10/20/2004	2,226	6	Meningitis	Marineland of Canada
Kalina	F	09/26/1985	10/04/2010	9,139	25	Acute Bacterial Septicemia	SeaWorld of Florida, USA
Kanuck	M	08/28/1994	1998	1,224	3	Traumatic Shock	Marineland of Canada
Katerina	F	11/04/1988	05/05/1999	3,839	11	Severe Suppurative Hemorrhage. Bacterial Pneumonia	SeaWorld of Texas, USA
Kiska's Calf (No Name)	M	08/24/1992	10/25/1992	61	0	Drowning	Marineland of Canada
Ku	F	02/02/1997	09/19/2008	4,245	12	Heart Failure	Port of Nagoya Aquarium, Japan
Kyosha	F	09/30/1991	01/04/1992	99	0	Brain Infection	Vancouver Aquarium, Canada
Kyu	M	02/07/1997	09/18/2004	2,778	8	Bacterial Pneumonia.	Nanki Adventure World, Japan
Maggie (Magy) (Miss Piggy)	F	11/1987	10/07/1997	3,628	10	Birth Complications	Kamogawa SeaWorld, Japan
Maggie's Calf (No Name)	M	03/03/1995	03/03/1995	0	0	Unknown	Kamogawa SeaWorld, Japan
Malik (E-Day)	F	04/21/1996	03/04/2000	1,414	4	Immune System Deficiency	Marineland of Canada
Nami	F	10/01/1985	01/14/2011	9,239	25	Ulcerative Colitis (Necropsy pending)	Port of Nagoya Aquarium, Japan
Neocia (Baby October)	F	10/21/1992	08/01/2004	4,303	12	Internal Infection	Marineland of Canada
No Name	F	02/1986	04/1986	60	0	Unknown	Japanese Fishermen Group, Coast of Japan
No Name	M	02/09/1997	06/14/1997	125	0	Systemic Viral Infection (Herpes Grp)	Nanki Adventure World, Japan
No Name	F	02/07/1997	06/17/1997	130	0	Bacterial Pneumonia (Bronchopneumonia)	Nanki Adventure World, Japan
No Name	F	09/26/2003	10/24/2003	28	0	Unknown	Utrish Dolphinarium, Russia
No Name	M	02/10/2006	02/13/2006	3	0	Unknown	Kamogawa SeaWorld, Japan
No Name (aka-Father Kshamenk)	M	09/17/1992	09/17/1992	0	0	Unknown	Acuario Mundo Marino, Argentina
Nootka IV's Calf (No Name)	M	02/04/1992	03/10/1992	36	0	Infection. Extremely High White Blood Cell Count.	Sealand of the Pacific, Canada

Appendix A: Captive Orca Longevity
Table II
Post-Kalina Mortalities: Orcas Entering Captivity after 9-25-85

Orca Name		Begin Captivity	Date of Death	Duration of Captivity (days)	Years of Life in Captivity	Reported Cause of Death	Place of Death
Nootka V's Calf (No Name)	F	05/27/1998	06/07/1998	10	0	Unknown	Marineland of Canada
Nova	M	11/06/1996	08/20/2001	1,750	5	Pneumonia. Starvation	Marineland of Canada
Nyar	F	12/31/1993	04/01/1996	827	2	Suppurative Encephalitis; Osteoarthritis	SeaWorld of Florida, USA
Pascuala	F	04/10/2007	06/10/2007	60	0	Immune System Failure. Malnutrition. Infection.	Vallarta Dolphin Adventures, Mexico
Prince (Bubba)	M	10/1987	07/10/1991	1,380	4	Pseudomonas	Ocean Park, Hong Kong
Ran (Lan)	F	10/1989	08/29/2004	5,447	15	Unknown. Gave birth to premature calf on 8-26-04.	Nanki Adventure World, Japan
Ran's Calf (No Name)	F	08/26/2004	08/28/2004	2	0	Broken Skull	Nanki Adventure World, Japan
Sarah	F	05/31/2003	04/26/2006	1,062	3	Unknown	Kamogawa SeaWorld, Japan
Shachi	F	02/1986	03/1988	760	2	Pneumonia	Sea Paradise, Japan
Sharkan	F	10/1989	01/03/2009	7,037	19	Bacillus Pyocyanique	Marineland Antibes, France
Splash	M	08/15/1989	04/05/2005	5,714	16	Acute Perforating Gastric Ulceration w/ Associated Peritonitis	SeaWorld of California, USA
Sumar	M	05/14/1998	09/07/2010	4,496	12	Acute Intestinal/Mesentric Vol	SeaWorld of California, USA
Taima	F	07/11/1989	06/06/2010	7,635	21	Peracute Uterine Prolape	SeaWorld of Florida, USA
Taku	M	09/09/1993	10/17/2007	5,151	14	Severe Multifocal Interstitial Pneumonia	SeaWorld of Texas, USA
Tanouk (Yamato)	M	10/1989	10/24/2000	4,041	11	Unknown	Sea Paradise, Japan

Table II: POST-KALINA Notes:

The preceding table (Table II) does not include stillborn calves, miscarriages or other unsuccessful pregnancies that occurred during captivity. Orca mortalities from capture operations are not included.

Forty-seven orcas that entered captivity on or after 09/26/1985 are shown.

(n=47)

Where estimated dates were required due to insufficient historical data, values were calculated using the following criteria:
If day of month is not known: default day is "01" (1st day of month).
If month is not known: default month is "01" (January).

*Gender unknown

The data utilized in this report was obtained from “The Orca Project Database” at www.theorcaproject.com which was compiled from multiple sources including National Marine Fisheries Service (NMFS) Marine Mammal Inventory Reports (MMIRs), marine mammal publications, websites, newspaper and news archives, government oversight agencies and marine mammal park documents and is believed to be accurate as of the date of publication.

Appendix A: Captive Orca Longevity
Table III
Orcas Presently Living in Captivity

Orca Name		Origin	Begin Captivity	Duration of Captivity (days)	Years of Life in Captivity	Present Location
Adan	M	Captive Born	10/13/2010	102	0	Loro Parque, Spain
Corky II	F	Wild Capture	12/27/1969	15,003	41	SeaWorld of California, USA
Earth	M	Captive Born	10/13/2008	833	2	Kamogawa SeaWorld, Japan
Freya	F	Wild Capture	10/1982	10,341	28	Marineland Antibes, France
Ikaika	M	Captive Born	08/25/2002	3,072	8	Marineland of Canada
Inouk	M	Captive Born	02/23/1999	4,350	12	Marineland Antibes, France
Kalia	F	Captive Born	12/21/2004	2,226	6	SeaWorld of California, USA
Kasatka	F	Wild Capture	1978	12,072	33	SeaWorld of California, USA
Katina (Kandu VI)	F	Wild Capture	1978	12,072	33	SeaWorld of Florida, USA
Katina's calf (No Name)	M	Captive Born	10/09/2010	106	0	SeaWorld of Florida, USA
Kayla	F	Captive Born	11/26/1988	8,095	22	SeaWorld of Florida, USA
Keet	M	Captive Born	02/02/1993	6,562	18	SeaWorld of Texas, USA
Keto	M	Captive Born	06/17/1995	5,697	16	Loro Parque, Spain
Kiska	F	Wild Capture	10/1979	11,437	31	Marineland of Canada
Kohana (Makea)	F	Captive Born	05/03/2002	3,184	9	Loro Parque, Spain
Kshamenk	M	Wild Capture	09/19/1992	6,701	18	Acuario Mundo Marino, Argentina
Kyuquot (Ky) (Kyuquet)	M	Captive Born	12/24/1991	6,971	19	SeaWorld of Texas, USA
Lara	F	Captive Born	02/08/2001	3,634	10	Kamogawa SeaWorld, Japan
Lolita (Tokitae)	F	Wild Capture	08/08/1970	14,777	40	Miami Seaquarium, Florida, USA
Lovey	F	Captive Born	01/11/1998	4,757	13	Kamogawa SeaWorld, Japan
Malia	F	Captive Born	03/12/2007	1,409	4	Sea World LLC Sea World of Florida
Morgan	F	Rescue	06/23/2010	212	1	Harderwijk Dolphinarium, Netherlands
Nakai	M	Captive Born	09/01/2001	3,431	9	SeaWorld of California, USA
Nalani	F	Captive Born	09/18/2006	1,588	4	SeaWorld of Florida, USA
Orkid	F	Captive Born	09/23/1988	8,158	22	SeaWorld of California, USA
Oscar (Wolfie)	M	Wild Capture	11/1987	8,485	23	Kamogawa SeaWorld, Japan
Ran II	F	Captive Born	02/25/2006	1,791	5	Kamogawa SeaWorld, Japan
Sakari	F	Captive Born	01/07/2010	378	1	SeaWorld of Texas, USA
Shouka	F	Captive Born	02/25/1993	6,539	18	Six Flags Discovery Kingdom, CA, USA
Skyla	F	Captive Born	02/09/2004	2,538	7	Loro Parque, Spain
Stella	F	Wild Capture	10/23/1987	8,493	23	Kamogawa SeaWorld, Japan

Appendix A: Captive Orca Longevity
Table III
Orcas Presently Living in Captivity

Orca Name		Origin	Begin Captivity	Duration of Captivity (days)	Years of Life in Captivity	Present Location
Takara	F	Captive Born	07/09/1991	7,136	20	SeaWorld of Texas, USA
Tekoa	M	Captive Born	11/08/2000	3,730	10	Loro Parque, Spain
Thor (Bingo)	M	Wild Capture	11/1984	9,581	26	Kamogawa SeaWorld, Japan
Tilikum	M	Wild Capture	11/1983	9,946	27	SeaWorld of Florida, USA
Trua	M	Captive Born	11/23/2005	1,888	5	SeaWorld of Florida, USA
Tuar (Flash)	M	Captive Born	06/22/1999	4,231	12	SeaWorld of Texas, USA
Ulises	M	Wild Capture	11/19/1980	11,024	30	SeaWorld of California, USA
Unna	F	Captive Born	12/27/1996	5,142	14	SeaWorld of Texas, USA
Valentin	M	Captive Born	02/13/1996	5,456	15	Marineland Antibes, France
Wikie	F	Captive Born	06/01/2001	3,521	10	Marineland Antibes, France

Table III: LIVING ORCAS Notes:

The preceding Table includes all orcas known to be held in captivity throughout the world as of date of publication.

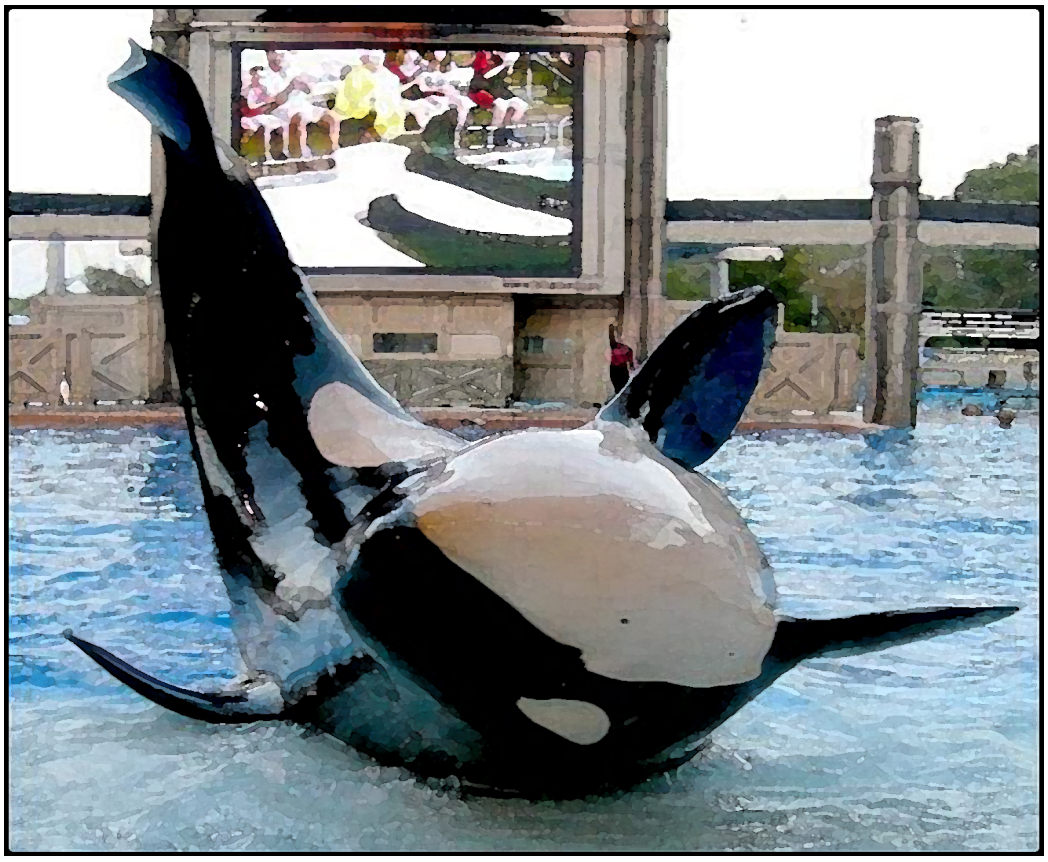
(n= 41)

“Duration of Captivity” is calculated as of 01-20-2011.

Where estimated dates were required due to insufficient historical data, values were calculated using the following criteria:
If day of month is not known: default day is "01" (1st day of month).
If month is not known: default month is "01" (January).

The data utilized in this report was obtained from “The Orca Project Database” at www.theorcaproject.com which was compiled from multiple sources including National Marine Fisheries Service (NMFS) Marine Mammal Inventory Reports (MMIRs), marine mammal publications, websites, newspaper and news archives, government oversight agencies and marine mammal park documents and is believed to be accurate as of the date of publication.

The Sea World of Texas (SWT) document (represented in this Appendix) was provided to SWF trainers in October of 1994. It is the biopsychosocial profile of Kalina, the original Baby Shamu. As the first successful birth of an orca at a theme park, she ushered in the modern age of killer whale captivity.



Kalina's survival demonstrated the minimal spatial requirements needed for successful nursing behavior(s). Her premature death reminds us that even the best facilities cannot replicate life in the open ocean. Kalina died at the age of 25 from acute bacterial septicemia. It is not known how bacteria entered her bloodstream.

1.0. # SWF-Oo-8501

SEA WORLD OF TEXAS ANIMAL TRAINING DEPARTMENT

ANIMAL PROFILE

- Kalina (Orcinus Orca)
- Sex: Female
- Born: 9/26/1985
- Length: 16.9 ft.
- Weight: 4444 bls. (10-14-1993)

Differentiating Characteristics

- Prominent lower jaw
- Clean, smooth skin
- Hook shaped dorsal fin -- slight lean to the left with notch towards base of fin
- Dark markings on roof of mouth
- Two freckles on right side of face Lower front two teeth slightly worn

Secondary Reinforcers

- Fish play
- Water hose on top of head Water jet play
- Tongue and mouth tactile Body tactile
- Socialization with other whales Overall play
- Variable feed
- Bucket pour
- Toys
- Visual stimulation
- Learning new behaviors
- Show sequence/environmental changes Object retrieval
- Chew rope
- Floating disc
- Cart follow with fish toss
- Kelp
- Barrel (under supervision)

Finds Aversive

- Major environmental and social changes
- Unclear/confusing situations
- Divided attention
- Long term separation
- Pulls away from tactile from strangers

Aggressive Tendencies

When excited or confused, she may slide over, push or bow over her trainer in the water.

Will aggressively and physically displace less dominant whales when frustrated, confused or sees an imbalance in attention.

Summary

Kalina was the first killer whale calf born at Sea World of Florida on September 26, 1985. She was born to Katina and fathered by Winston. On February 2, 1993 she bore a male calf (Keet) fathered by Kotar. She has demonstrated good "mothering" skills without being overprotective. She did exhibit some aggression towards trainers for a short period (two weeks following the birth) when attempting to get her to start eating. She would displace the calf during water work if the trainer was attempting to give too much attention to the calf.

Kalina was transferred from Florida to Ohio on February 12, 1990. She was then transferred from Ohio to California on October 13, 1990. She was next transferred from California to Texas on May 30, 1991. Her next transfer was from Texas to Florida on October 29, 1994.

She responds very well to a wide array of interactions, learning and creativity. She does have a short attention span appearing to have difficulty relaxing or becoming distracted during quiet relationship sessions. She does not seem to enjoy interacting with new people and will show discriminatory behavior, although nothing to excess. This also holds true during training sessions. Progress is at its most efficient when a minimum of trainers work with her to insure consistent criteria. Being motivated more by secondary reinforcers than food, she regularly solicits attention from trainers. Since her energy and excitability level runs high, it is important during both land and water sessions to have fun, but to concentrate on keeping her calm and controlled.

Kalina is a consistent animal. Uncooperative behavior from her arises due to social situations with other whales, either initiated by her or from signals from the others. Uncooperative behavior also occurs during heavy show schedules which manifests into tight, aggitated behavior and very obvious incorrect responses to Sd's. She has a negative history with nets and has swam into them.

Kalina Profile

Kalina's past history with toys during playtimes has shown extreme excitement to borderline "aggression." since she has shown similar excitement during waterwork, her interactions with toys has been reduced. If given a toy, it should be closely monitored. This "aggressive tendency" has diminished significantly over the past two years. Her assertive tendencies had been seen mostly during waterwork. Aggression involves anything from slight bumping or sliding over her trainer to a complete bow over her trainer. The last episode of a "swim over" occurred in 1992. Her history states she has opened her mouth on trainers, yet this behavior has not been observed during the past few years. Her aggression has been decreasing due to concentration on controlling her excitability and frequent rewards for calmness and acceptance of the situation or mistakes. Her calls to stage and water desensitization are always stressed and rewarded with primary on a high ratio.