

A photograph of two orcas swimming underwater against a deep blue background. The orca on the left is seen from a side profile, swimming towards the right. The orca on the right is seen from a front-facing perspective, swimming towards the viewer. Both animals show their characteristic black and white coloration.

KILLER WHALE CARE, CONSERVATION AND EDUCATION

PROTECTION, INSPIRATION AND CONSERVATION

Our mission at SeaWorld® is to inspire guests to celebrate, connect with, and care for the natural world.

Through education and up-close, personal encounters with sea life that would otherwise not be possible, our **guests become engaged with and better stewards of marine animals and their habitats.** In fact, the opportunity to see killer whales up close has **inspired millions of people**, especially children, to care more about marine animals, the oceans and the environment.

"Our mission at SeaWorld is to inspire guests to celebrate, connect with and care for the natural world."

SeaWorld cares for one of the largest animal collections in North America, including the largest killer whale population in a zoological organization worldwide: 30 animals. Our more than 50 years of world-class care, state-of-the-art animal habitats, and commitment to animal welfare have earned our parks recognition as **global leaders in the zoological community.**

Our commitment to animals extends around the world through significant financial contributions and resource support for **conservation, wildlife rescue** and **education** programs. Our killer whales are an important part of this work. Through scientific research and public engagement, these majestic animals help benefit their counterparts in the wild. Our ability to closely observe and study killer whales is helping conservationists better understand and protect killer whales and other marine animals everywhere.



OUR KILLER WHALES ARE HEALTHY AND THRIVING

The killer whales at SeaWorld receive **world-class veterinary care** and are not just healthy, they are thriving.

RIGOROUS REGULATION AND ACCREDITATION STANDARDS

SeaWorld is highly regulated by the United States government. We are regularly inspected by federal veterinarians and other officials, and we pass strict federal licensing requirements every year. The quality of care we provide these animals is further evidenced through the stringent accreditation process of two of the foremost professional zoological organizations to which we belong: The Association of Zoos and Aquariums (AZA) and the Alliance of Marine Mammal Parks & Aquariums (AMMPA). AZA-accredited zoos and aquariums undergo a rigorous review that includes a detailed accreditation application as well as a multiple day on-site inspection by a team of experts from around the country. **Fewer than 10% of the animal exhibitors in the U.S. are AZA accredited.** The AMMPA requires similar application and on-site review processes for accreditation.

ANIMAL CARE AND ENRICHMENT

SeaWorld has learned a great deal about killer whales over the past five decades. Our whales are **healthy and well adapted to their surroundings**, a fact that is evident to our zoological experts through their constant interaction and observation 24 hours per day.

We provide our animals with exercise, play and enrichment time, veterinary care and the company of other members of their species.

Animal care team members interact with each killer whale every day. Their contact and the personal relationship it nourishes enable the staff to become intimately familiar with each animal's unique behavioral profile and to notice even the slightest differences in behavior that might indicate anything unusual.

VETERINARY CARE

Our whales engage in physical and mental activity every day, and our regular assessments of their weight, growth rates, muscle tone, respiratory health, heart rate, and physical abilities tell us they are healthy. Proactive monitoring of their health is a key component keeping our killer whales healthy. Rather than just a yearly physical, the whales at SeaWorld receive **complete health assessments every month**, surpassing the preventive medicine program of most humans.

We recognize that these animals have evolved complex behavioral capacities and problem-solving strategies to succeed in the ocean, and we are committed to **caring for their behavioral health as well as physical health**. Our trainers work closely with our veterinarians and other team members to provide a holistic behavioral program that focuses on health, exercise and mental challenges.

The behavioral health program of a killer whale at SeaWorld would include training to participate in husbandry and veterinary care; exercise in the form of high jumps, fast swims, and other high-energy behaviors both in and out of shows; social interactions with other killer whales and interaction with multiple enrichment objects that challenge the animals to manipulate their environment and solve problems individually and in groups.



How much we feed our whales each day depends on factors like their age and sex, as well as the caloric density of the food. We feed our whales thousands of pounds of fish daily. As an example, a 5,000-pound killer whale could receive as much as 175 pounds of fish in one day. Contrary to what you may hear from animal extremists, no whale is ever denied food. Period. The seafood we feed our whales is caught specifically for places like SeaWorld, so we can always maintain the highest standards for quality and cleanliness. In addition, we follow the rigorous USDA guidelines governing how the fish are delivered, thawed, and prepared.





OUR POSITIVE REINFORCEMENT TRAINING

Our entire program is grounded in the philosophy of **positive reinforcement training techniques and compassionate care** with all of our animals, including killer whales. That means that any time we request something of our animals and they respond in the manner we were looking for, they are reinforced with a reward.

Positive reinforcement could come in the form of fish, a back scratch, a bucket of ice, a play toy or any other number of items or experiences that the whales find pleasing. If any animal chooses not to engage with us or engage in the way we were asking, then we will either provide a neutral response (we simply stand there) or we will move on to a different behavior or step away from the session at that time.

OUR KILLER WHALES LIVE AS LONG AS THOSE IN THE WILD

Our whales live as long as those in the wild, and our study of them is helping conservationists better understand and protect killer whales and other marine animals everywhere.

SeaWorld has several killer whales in their 30s and one that is close to 50 — right in line with what is seen in the wild. In fact, a July 2014 Associated Press (AP) report analyzing 50 years of data from the federal Marine Mammal Inventory Report found that killer whales born at our parks “had an average life expectancy of 46 years.”

The data we have shows that killer whales at SeaWorld are living as long as their counterparts in the wild.

- In peer-reviewed studies, scientists estimate that the average, or mean, life expectancy for a female is 30 years and a male is 19 years in the Pacific Northwest¹.
- For whales in Southeastern Alaska, the maximum longevity appears to be in the 50s for females and late 30s for males². So, in those two areas of the world, female killer whales live around 30 to 50 years and males live around 19 to 30 years.

Even the author of an independent study, Dr. Douglas DeMaster, of the Alaska Fisheries Science Center, was quoted in **The Wall Street Journal** as saying, **“Survival in the wild is comparable to survival in captivity³.”**



BREEDING AND THE MOTHER-CALF BOND

Thanks to groundbreaking research and decades of work with killer whales, SeaWorld's population of killer whales has been **successfully producing healthy offspring** since our first whale was born in 1985. The success of this program has made it possible for SeaWorld to care for and display killer whales to the public **without collecting a killer whale from the wild more than 35 years**. The continued success of this program depends on our ongoing research and understanding of killer whale reproduction, respect for their social structure and adherence to internationally recognized zoological standards.

SeaWorld understands the importance of keeping mothers and their dependent calves together. Mothers provide support and nutrition and we do not and would not interfere with that, unless the mother or calf's life was in danger. The reality is that many of our whales live with their mothers even though they are now adults. For example, in San Diego we have three generations of whales living together in the same group. The bottom line: We do not move whales casually or automatically. When we do, it is only when the whale is weaned and socially independent.

We've learned so much over 30 years of killer whale births that **we have developed practices that help mothers nurture their young successfully**. To be sure, abandonment can be a real issue for killer whales in the wild — and our work at SeaWorld could one day help scientists understand how to mitigate those problems.

According to published studies, the neonatal mortality in a studied population of wild killer whales (those between birth and six months of age) is roughly 43 percent⁴, making the more we learn about the reproduction and the early years of killer whales important to the species. SeaWorld research and that conducted by scientists working with **SeaWorld's animals have added significantly to science and society's understanding of this remarkable species**: reproductive physiology, vocalization, development, and learning capacity.

SeaWorld scientists have authored multiple peer-reviewed, publications on killer whale reproduction, birth and development. That research has helped advance scientific knowledge around topics such as length of nursing for killer whales⁵, the gestation period of female killer whales⁶ and sexual maturity for males⁷. In recent years, SeaWorld has developed a successful program of artificial insemination that has produced four healthy killer whales at SeaWorld⁸.

Not only is our research beneficial to the whales in our care, but it also has increased the scientific understanding of animals in the wild.



HELPING MOTHER KILLER WHALES NURTURE THEIR YOUNG

Research being conducted today on our killer whales' milk composition will help scientists understand the nutritional requirements for mothers and calves. Research into pregnancy and lactation will help scientists understand how killer whales metabolize toxins. Considering the human impact on our oceans, this research is critical for all killer whales, especially the endangered Southern Residents in the Pacific Northwest.



BIGGER HABITATS, BETTER UNDERSTANDING OF KILLER WHALES

Killer whale health starts with a safe, state-of-the-art habitat and a day filled with enriching activity.

SeaWorld invests millions of dollars in habitat maintenance and improvement and, **in the last three years alone, invested \$70 million in killer whale habitats.**

Our killer whale habitats are among the largest and most advanced anywhere in the world, and in San Diego, we are getting ready to massively increase our habitat size through our Blue World Project. It will be a dynamic, adaptable environment with varied depths and fast water currents that will provide additional physical enrichment. SeaWorld is engaging with an Independent Advisory Panel to bring new perspectives and ideas to the project. The panel will focus on the creation of an environment that maximizes the health and

well-being of the animals. The panel will further advise on integrated research projects that can be conducted within the new environment and foster partnerships within the science and academic communities working in the wild.

"Our killer whale habitats are among the largest and most advanced anywhere in the world..."

RESEARCH BENEFITS KILLER WHALES IN THE WILD

Research is a key component of SeaWorld's larger commitment to conservation and animal welfare, and was established as a priority by our founders five decades ago. This commitment includes:

- publishing our own research;
- sharing our parks and animals as controlled research environments, and
- funding and supporting projects around the world.

The **killer whale research we conduct has direct benefit for science**, and the animals in our care allow researchers, biologists and conservationists to better understand and conserve these remarkable animals in the wild.

Our state-of-the-art habitats offer scientists unique access to the whales in a controlled setting that is impossible to replicate in the ocean, yielding research that can lead to a better understanding and care of the animals in zoos and in the wild.

A CLOSER LOOK AT THE RESEARCH

Scientific research performed at SeaWorld is carried out by our own research staff, and by scientists from national and internationally renowned universities and research organizations such as UCLA, the San Diego Zoo and the Hubbs-SeaWorld Research Institute. We publish the results of our research in peer-reviewed journals. **SeaWorld scientists have authored or co-authored more than 300 published papers.** Of these, 50 contain information specific to killer whales.

We also provide resources and financial support to field researchers. This support is offered directly by SeaWorld, through grants from the SeaWorld & Busch Gardens® Conservation Fund, and by research foundations associated with and supported by SeaWorld, including the Hubbs-SeaWorld Research Institute.

HELPING ENDANGERED KILLER WHALES IN THE WILD

In the largest private commitment of its kind ever made, SeaWorld has pledged \$10 million in matching funds focused on threats to killer whales in the wild, especially those identified by the U.S. government related to the endangered Southern Resident killer whale population. The matching funds will be in addition to killer whale research conducted by SeaWorld's scientists.

As a part of this commitment, SeaWorld has partnered with the National Fish and Wildlife Foundation through the Killer Whale Research and Conservation Program, which is dedicated primarily to providing support to aid in the recovery of the endangered Southern Resident killer whale population found in the coastal waters of Washington State and surrounding areas, known as the Salish Sea.

"...the animals in our care allow researchers, biologists and conservationists to better understand and conserve these remarkable animals in the wild."



RESEARCH STORIES

KILLER WHALE METABOLISM: HOW MUCH DO WHALES NEED TO EAT?

Together with Hubbs-SeaWorld Research Institute, SeaWorld recently conducted groundbreaking research to answer the question: how many calories does a killer whale burn at rest (known as the resting metabolic rate). These findings help scientists understand how much food a killer whale needs to survive. This has important implications both for wild whales and the habitats in which they live, particularly the endangered Southern Resident killer whales. Scientists believe that one of the reasons this population is imperiled is because of the declines in their principal food: salmon. Knowing killer whale food requirements will help scientists to understand the impact of that decreasing salmon population, as well as the impact the whales themselves have on fish and other animals in that environment.

UNDERSTANDING THE LIFE HISTORY OF KILLER WHALES

Studies at SeaWorld have added significantly to the natural history of killer whales. Through studying the reproductive patterns of the killer whale population at SeaWorld, we've learned a great deal about how killer whales produce healthy offspring. Those insights are critical to understanding the reproduction and development of whales in the wild, where these patterns would be virtually impossible to study. It is important for scientists and conservationists to understand wild killer whale reproductive patterns so they can better understand the growth of those populations.

KILLER WHALE VOCALIZATIONS

For more than 10 years, SeaWorld has been supporting long-term studies to enable us to characterize the vocal patterns of different populations of killer whales. By studying the development and variations in these vocal patterns, we get a better understanding of the vocal development processes of this species and how killer whales use vocalizations to communicate. One area of focus is centered on how vocalizations might be a measure of health – or distress – in the wild. A study published in 2013 showed that Pacific Northwest killer whales have grown quiet compared to years past.

Scientists don't know the cause, and the results of these long-range vocalization studies may help us find out.

We can monitor the vocalizations of wild killer whales. But only at places like SeaWorld can we listen to specific individuals over many years to get the full picture of how they vocalize and how it relates to their world.

BREAKTHROUGH NUTRITIONAL ASSESSMENTS USING UNMANNED AERIAL DRONE TECHNOLOGY

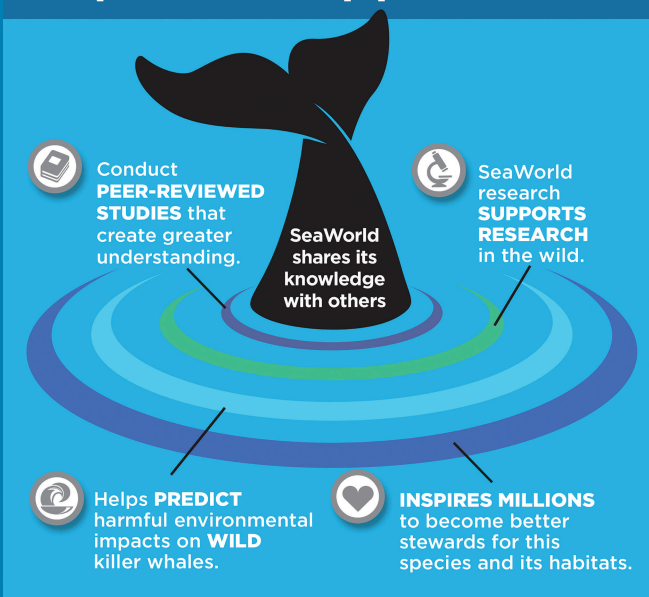
Scientists from the National Oceanic and Atmospheric Administration (NOAA) took a series of precise body measurements of the killer whales living at SeaWorld, including pregnant whales. Now they are using drones to photo-document wild killer whales, and based on the images collected at SeaWorld, are able to monitor the wild population's nutritional and reproductive states.

UNDERSTANDING HOW KILLER WHALES METABOLIZE TOXINS

Research into pregnancy and lactation will help scientists understand how killer whales metabolize toxins. This study is looking at how toxins are transferred during pregnancy and lactation to offspring. Toxins are identified as a major health concern for wild killer whales. They have been proposed as causes for reduced pregnancy success and increased health issues in wild whales. By studying the whales at SeaWorld, we can create an effective model to better understand how these toxins impact wild killer whales.

**"OUR DEDICATION TO CARING FOR
THE ANIMALS WE HELP IS SUR-
PASSED ONLY BY HOW PERSONALLY
WE TAKE THOSE OPPORTUNITIES."**

a positive ripple effect



400 MILLION+

**GUESTS EDUCATED AND ENGAGED
AT SEAWORLD**

coming face-to-face with a killer whale leads to

awe, inspiration and understanding,

encouraging a positive change in behavior,

that leads to active ocean stewardship,

and helps protect marine animals.

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TOP FACTS TO KNOW ABOUT SEAWORLD'S WHALE CARE:

- Our whales are **heathy and thriving** and receive world-class care. We're heavily regulated by the federal government and accredited by two of the world's leading zoological associations.
- Third-party research confirms our killer whales' **life spans are equivalent** with whales in the wild.
- We **do not** capture killer whales in the wild. Due to our groundbreaking reproduction research and program, we haven't collected a killer whale from the wild in 35 years.
- We understand the importance of **keeping mothers and their dependent calves together**. Mothers provide support and nutrition and we do not and would not interfere with that, unless the mother or calf's life was in danger.
- The killer whales in our facilities **benefit** those in the wild. We provide scientists with access, research and data that would be difficult or impossible to get in the wild.
- SeaWorld has committed **\$10 million** in matching funds focused on threats to killer whales in the wild.
- We invest millions of dollars in the care of our whales. Our habitats are among the **largest in the world** today and allow for the highest and safest standards of care.

HAVE QUESTIONS? FIND OUT MORE AT **ASKSEAWORLD.COM**



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