Oceans Away from Home:

AQUARIUM INVESTIGATIONS

BORN FREE USA

KEEP WILDLIFE IN THE WILD®

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SUMMARY

In May and June of 2023, Born Free investigators visited three major aquariums in the United States: the National Aquarium in Baltimore, Maryland, the SEA LIFE Aquarium in San Antonio, Texas, and the Shedd Aquarium in Chicago, Illinois. Despite each visit lasting just a couple of hours at most, we discovered unnerving findings that remained consistent between each facility: fish from a variety of species demonstrating abnormal and repetitive behaviors, likely indicating poor animal welfare; unsafe and potentially harmful enclosure designs; and absence of any meaningful educational or conservation initiatives, which are some of the most popular reasons most zoos and aquariums use to justify their existence.

SAN ANTONIO SEA LIFE AQUARIUM

Upon first walking into the facility, we observed electronic ID cards at each tank with touchscreens. While this appears to be an innovative way to educate visitors, the cards mostly demonstrated only the common names of the fish. This can be confusing to visitors, as common names occasionally overlap with other species, making misidentification much easier.

Figure 1. Virtual identification cards displayed outside each tank at the aquarium, mostly just showing the common names of the fish.

The first tank held a long-lived species called black buffalo fish, often referred to as "sucker fish." These fish will likely live in this small tank for decades. On one of the fish, we noticed an ulceration or another kind of damage to the tail. In another tank, one of the zoster butterfly fish had an injured tailfin. These injuries are often caused by increased aggression in tanks due to high stocking density.

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Figure 2. A black buffalo fish, or "sucker fish," with an ulceration or another kind of damage to the tail.

Figure 3. A zoster butterfly fish with an injured tailfin.

Figure 4. In a tank holding lionfish, one of the walls was comprised of a bright screen showing animated sea animals, depicting a cartoon eel and seahorse playing on an infinite loop with sound. Lighting and sound, especially when experienced at constant and too-loud levels, can have considerable negative impacts on fish.

We then observed three palometa fish pacing the same circuit for several minutes in another tank. In the wild, this species is very active and fast swimming. According to Jack Wootton, a senior ecologist with the Forth Rivers Trust and expert in fish behavior and welfare, "This species should not be kept in an aquarium at all, as they cannot reach their top speed or migratory needs in a tank as pitiful as this."

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We also observed two triggerfish in another tank pacing the same circuit for several minutes at a time. The tank was overcrowded, with very little environmental complexity. As with the palometa fish, they could not reach their maximum speeds in the small space provided, likely resulting in the abnormal behavioral expression observed.

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Figure 5. One of the sphere-shaped tanks that had a magnifying glass effect, potentially causing an unnatural and uncomfortable experience for the fish inside. Unnatural elements in captive animal enclosures may cause the animals kept inside to demonstrate odd, repetitive, and sometimes harmful behaviors.

Figure 6. The second of the sphere-shaped tanks that had an unnatural magnifying glass effect.

Two tanks were sphere-shaped and had a magnifying glass effect. Generally, any enclosure elements that create an unnatural experience for the fish inside are often met with odd repetitive behaviors, which can manifest as aggressive displays, repetitive rubbing on the glass (often resulting in injury), and pacing. In a tank that held lionfish, a bright screen showing animated sea animals comprised one of the walls of the tank, which depicted a cartoon eel and seahorse playing on an infinite loop with sound. Lighting and sound can have considerable negative impacts on fish. Water carries sound extremely well, and fish are very sensitive to it. While light and sound impact different species in different ways, these elements have caused such a consistently negative reaction in many fish species that they are often used as effective deterrent methods in

exclusion areas (i.e., places people do not want fish to enter, e.g., hydro intakes) (Pers. Comm. Jack Wootton, 2023).

Figure 7. Seahorse in a barren tank, with no live rock, coral, or vegetation.

The seahorse tanks had no live rock, coral, or vegetation. The tank had a few sparse plastic plants, but nothing that would mimic elements in their natural environments. The presence of live coral and plants can indicate an acceptable level of water quality and stability. The aquarium had no live plant matter in any of the other tanks that we observed.

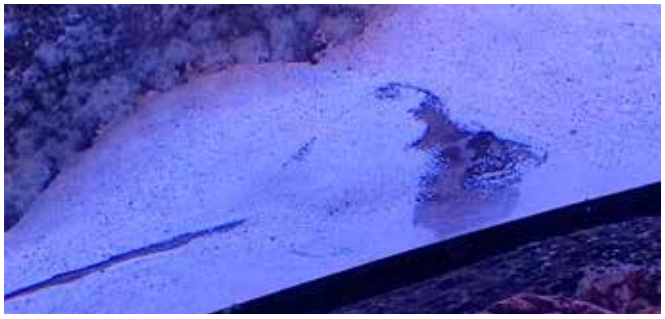

Figure 8. A blue spotted stingray engaging in a predatory response behavior (hiding) within seconds of seeing us, suggesting that they were experiencing a state of high stress and fear when we approached the tank.

The blue spotted stingray hid from us when we approached the tank, immediately covering himself with sand. This response indicates a defensive behavior typically elicited when the ray's predatory response becomes triggered. If this behavior is triggered each time a visitor passes, throughout the day, this fear reaction is likely to occupy a large percentage of their daily

Figure 9. A cownosed stingray engaging in a stereotypy called "surfacing behavior," indicating that they may be experiencing chronic levels of high stress, boredom, or frustration with their inability to perform species-specific behaviors in a small and shallow tank.

time budget. Defensive behaviors are often associated with increased cortisol levels, which, if experienced chronically, has been linked to higher stress levels, increased disease susceptibility, and greater death rates in fish.

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Next, we observed cownosed rays in an open-top circular tank. Cownosed rays have a huge migratory life cycle that cannot be mimicked in an aquarium. We observed surfacing behavior multiple times in one ray for several minutes – which is a stereotypy for this species.

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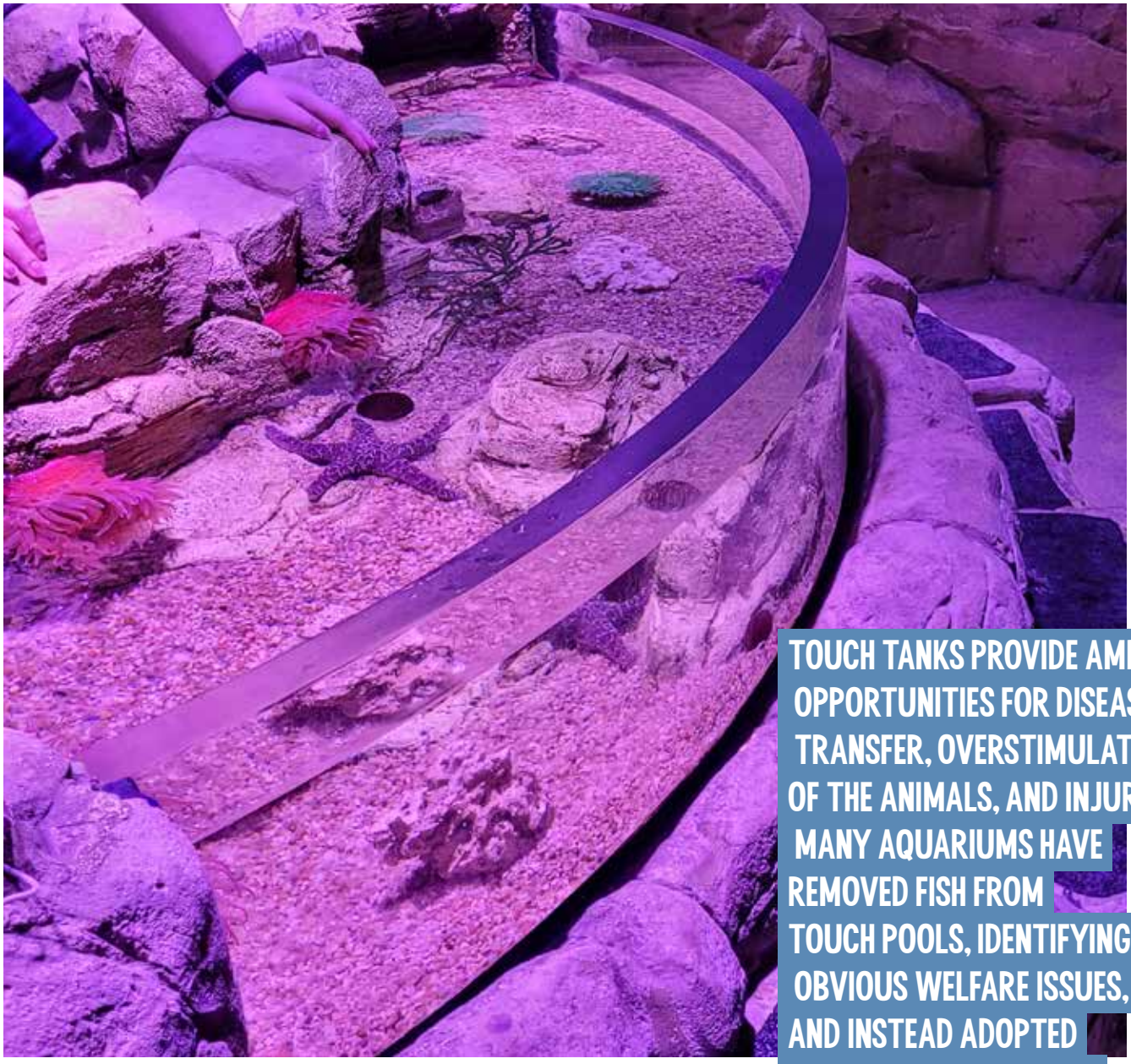

TOUCH TANKS PROVIDE AMPLE OPPORTUNITIES FOR DISEASE TRANSFER, OVERSTIMULATION OF THE ANIMALS, AND INJURY. MANY AQUARIUMS HAVE REMOVED FISH FROM TOUCH POOLS, IDENTIFYING OBVIOUS WELFARE ISSUES, AND INSTEAD ADOPTED NON-FISH TOUCH POOLS.

Figure 10. A touch tank exhibiting anemones and starfish.

The touch tank exhibited anemones and starfish. Staff asked kids to wash their hands before touching the animals. The staff member did not provide any educational or conservation-related information while several young children engaged in the touch tank experience, nor were there any signs indicating the species present or instructions for touching the animals. According to Jack Wootton, "Touch tanks provide ample opportunities for disease transfer, overstimulation of the animals, and injury. Many aquariums have removed fish from touch pools, identifying obvious welfare issues, and instead adopted non-fish touch pools. These usually contain anemones, starfish, and other invertebrates. This solves a few problems for the aquarium as the animals cannot escape and therefore are caught and touched with ease. [Due to the lack of legislation protecting fish and other marine animals]… Aquariums won't get in trouble if they keep killing them and replacing them… All in all, most aquariums don't teach you anything other than how a fish should not be acting and how a fish should not be kept."

NATIONAL AQUARIUM

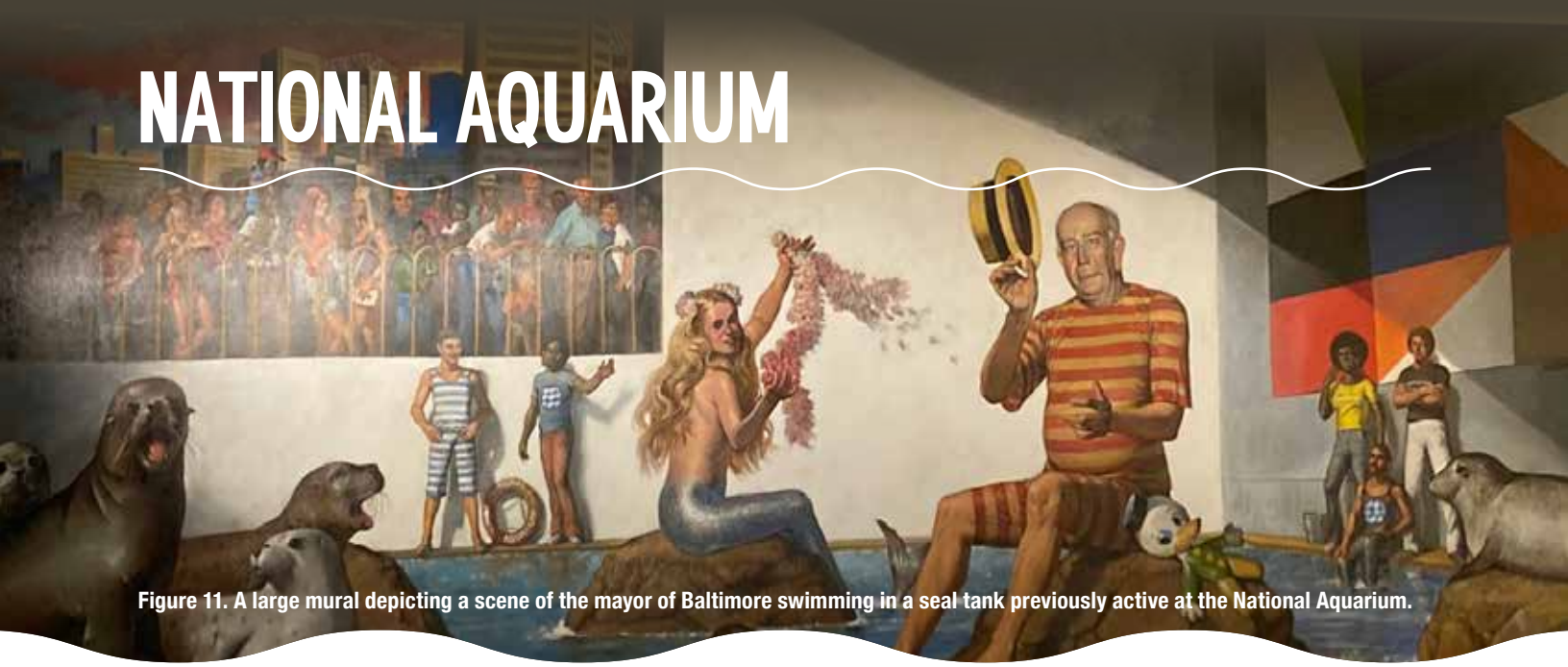

Figure 11. A large mural depicting a scene of the mayor of Baltimore swimming in a seal tank previously active at the National Aquarium.

One of the first sights visitors observed at the aquarium was a large mural depicting a scene of the mayor of Baltimore swimming in a seal tank previously active at the aquarium (the exhibit has since been discontinued). The mural had no disclaimer indicating the dangerous nature of approaching or attempting to swim with seals.

In the first room, all tanks were in direct sunlight with minimal opportunity for fish to find shade. We grew uncomfortably warm just standing in this room for a few minutes.

Figure 12. All tanks in the first room of the aquarium were in direct sunlight with minimal opportunity for fish to find shade or relief from elevated temperatures.

In the shark tank, one black tip shark had visible lacerations along his back and what appeared to be additional damage to his dorsal fin. There were several blacktip sharks in the enclosure, but only one had multiple lacerations. The tank was open-top to allow guests to look down at the fish, which seemed like a potential hazard for dropping items into the tank and needlessly made the animals inside more vulnerable.

Figure 13. One black tip shark (on the left) had visible lacerations along his back and what appeared to be additional damage to his dorsal fin.

There were signs on many of the open-top tanks advising guests not to put their hands inside, but no staff members were observed within this area to enforce that rule. One child had to be reminded by his parents multiple times not to put his hands in the tank. These tanks also illustrate an example of areas above the water, out of reach of the animals, having a lot of detail and portraying realistic-looking environments that only serve the purpose of being aesthetically pleasing to the guests and do not in any way benefit the fish.

One of the touch tanks we observed had horseshoe crabs, skates, and snails. Two staff members operating this tank actively encouraged us to touch the animals (we did not) but asked that we not attempt to pick them up.

Figure 14. One of the open-top tanks, where minimal to no enforcement was observed to ensure the security of the fish inside and the safety of the aquarium visitors.

Figure 15. One of the touch tanks, which held horseshoe crabs, skates, and snails.

Figure 16. Another touch tank, which held moon jellyfish.

The smaller touch pool was filled with moon jellyfish. A sign next to the tank explained that the jellyfish were safe to touch. When we approached the tank, two staff members, again, highly encouraged us to touch the jellyfish (we did not). One staff member explained that guests are asked to touch the top of the jellyfish for the animal's safety, as their short delicate tentacles can easily be damaged by direct contact with human skin. There was no sign explaining that you should not touch the bottom of the jellyfish, and not every guest received this verbal warning. One child had to be stopped at the last second and told not to touch the jellyfish from the bottom. Another part of the aquarium had a sign depicting a person swimming with moon jellies, which simply stated that moon jellies are harmless to swimmers. The sign failed to mention that the swimmers could potentially harm the jellyfish.

Figure 17. A mostly barren tank containing three sea horses.

A mostly barren tank contained three sea horses, who, similar to the San Antonio aquarium, had no live coral, rock, or vegetation.

A sign about predators admitted that it is not possible for the aquarium to fully prevent aggression between animals in the same tank.

Figure 18. A sign about predators admitting that it is not possible for the aquarium to fully prevent aggression between animals in the same tank.

Two exhibits, which focused on migrating species, contained animals who could never engage in this natural behavior because they are in captivity.

Figure 19. A sign for exhibits holding migrating species, who could never engage in this natural behavior because they are in captivity.

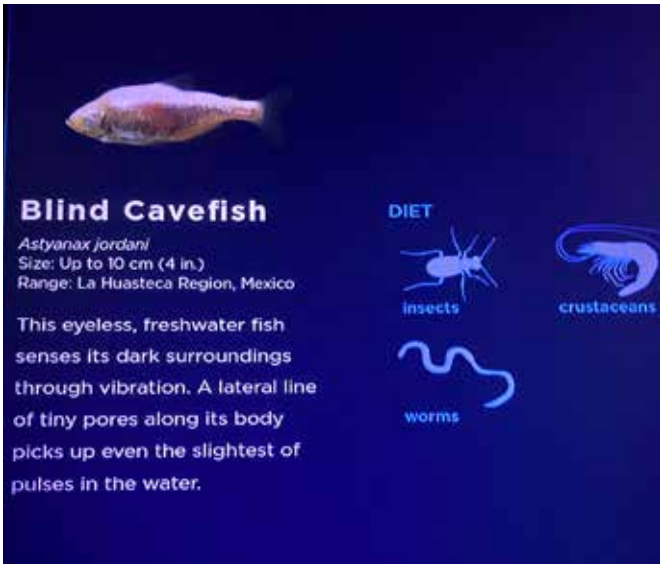

Figure 20. A sign describing the biology of blind cave fish, who typically live in total darkness.

The blind cave fish, who typically live in total darkness because their bodies lack the pigment needed to filter out sunlight, occupied a well-lit tank.

Figure 21. The blind cave fish tank, which had quite a bit of light exposure within the tank, providing an example of the opposite of what their natural environment (as stated by the aquarium) would typically resemble.

SHEDD AQUARIUM

Overall, there was a lack of educational information about the wildlife species held at this facility. For example, we observed vague banners above tanks saying, for example, “African Lakes,” “Wild Reef Mangrove,” or “Lake Malawi,” with a bit of information on conservation. Overall, there was minimal information given to identify or learn more about the individual species kept in each tank.

Figure 22. An example of one of the vague banners displayed above tanks throughout the Shedd aquarium, which do not function to education visitors adequately.

Figure 23. A touch tank containing starfish, one of whom was stuck in the corner the entire time we observed this tank.

At one touch tank exhibit featuring starfish, one individual was stuck in a corner. The staff member here told visitors not to touch this particular starfish because he was upside down. For several minutes, the staff member continued reminding visitors to touch all starfish except the upside-down individual. We heard no educational talk at this exhibit.

The sturgeon just swam around the edge, along the bottom, and let people touch them.

Figure 24. Despite admitting that stingrays are delicate animals, the signs still encouraged people to touch them.

Figure 25. Another example of a sign encouraging visitors to touch stingrays, despite them being fragile animals.

The stingrays predominately stayed well out of human reach. Although indicating that stingrays are delicate, the signs still encouraged people to touch them.

Staff members positioned at the sturgeon and sting ray touch tanks offered limited educational information, but mostly just instructed visitors on how to pet the animals, wash their hands, and reminded them that the facility closes at 5:00.

Figure 26. A touch tank with sturgeons with visitors engaging in the experience.

At a Caribbean Reef exhibit, we observed two rays, one missing a tail. We observed the ray with a tail chasing the other, indicating potential ongoing aggression between the two.

CONCLUSION

Overall, despite the aquariums we visited claiming to be some of the best in the world, all aquariums in our investigation failed to justify keeping these animals in captivity with any type of potential conservation, education, or animal welfare benefits. We observed a notable disregard for species-specific needs including lack of adequate swimming space; lack of appropriate environmental materials (e.g., live vegetation); the presence of distracting, unnatural, and potentially harmful elements, practices, and enclosure designs (e.g., excessively loud noises and visuals from an in-tank screen, distorted tank shapes, staff members encouraging direct interactions with particularly vulnerable animals, and loosely monitored open-top tanks); and the demonstration of poor animal mental and physical health (e.g., the numerous occurrences of abnormal behaviors and injuries observed).

Troublingly, SEA LIFE is the world's largest aquarium brand, with 50 locations worldwide that collectively see 23 million guests per year. The chain of aquariums is endorsed by popular travel brands including Groupon (Seifert, 2019) and Trip Advisor (Trip Advisor, 2023). Despite having little to no basic guidelines pertaining to fish welfare or conservation efforts, SEA LIFE holds more than 160,000 animals captive from more than 4,000 different species (SEA LIFE, 2023).

Similarly, the Shedd and National Aquariums are consistently listed on "Best Aquarium" lists for the United States (Tour Scanner, 2023). Their appearance on these lists remains particularly inconsistent with ethical practices, as both facilities promote "encounter" experiences with cetaceans. Even within parts of the zoo industry, it has long been recognized that the keeping of cetaceans in captivity is cruel and encounters are both dangerous and unethical. The Shedd Aquarium, however, has beluga whales and encourages people to get in the water and touch them, failing to acknowledge any health or safety risks for the humans and animals involved.

Similarly, the National Aquarium has dolphins and advertises daily "training sessions" that visitors can watch in the amphitheater, and during which they showcase trainers interacting with dolphins using whistles and toys. Although they have recently adopted a no touch policy here, they previously offered dolphin shows involving direct physical interactions with humans, which ended in 2012 (Kaltenbach, 2012). The aquarium has since pledged to send their dolphins to a seaside sanctuary, which is still in the process of being developed. While we would commend this effort, our investigators could not find much information at the exhibit that would educate the visitors about the reasoning behind sending their dolphins to a sanctuary, primarily including the inability of a captive environment to meet their most basic needs.

Our investigation confirms that, even at the "best" aquariums in the world, the needs of fish are vastly overlooked and, in many cases, completely neglected; often resulting in observable physical and mental suffering. Similar to the collective outrage many have felt towards the sight of large cetaceans in captivity like orcas or dolphins swimming aimless circles in a small, barren pool, fish suffer in many of the same ways, and deserve just as much attention. We urge our readers to not support any establishment that keeps fish captive for human entertainment, as visiting these facilities only perpetuates the cruel and outdated treatment of these animals who deserve so much more.

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