

## 3 FOR ANIMALS YOU EAT...

Hap summed up one of aquariums greatest challenges perfectly: **How do you build empathy for animals most people are used to eating?** Aquariums are researching, just as zoos are, to discover how to better build empathy. Dolf spoke about the effectiveness of using the cute and cuddly mammals to bridge the divide to fish. Otters easily cultivate empathy and capture guests' attention, but what about an octopus? The big, charismatic fauna often create a sense of respect and awe but connecting that to action is perhaps even more difficult for aquariums than it is for zoos. We discussed how organizations like Ocearch are doing an amazing job of **connecting people to the bigger story** of sharks, and thus, building empathy.

Dolf also brought up a good point about fisheries. Aquariums tirelessly support healthy fisheries and consumption, but what, if anything, is being done to ensure humane standards for aquatic species caught for food? There has been significant animal welfare research and advancement in the terrestrial agricultural world, but currently, most fish caught for food still suffocate on boat decks. Again, this comes full circle to **building empathy and understanding of these species.**

## 4 LOCAL IMPACT

Aquariums excel at focusing on local conservation work and impact. While zoos tend to be focused on exotic, far-off species, aquariums often have a greater sense of place, as Dolf mentioned. The Aquariums Conservation Partnership (ACP), as Rich explained, is a nimble group that has taken on some incredible conservation projects. The movement away from single-use plastics is a prime example. Did you see the **video of the sea turtle having a straw removed from its nostril? So did 35 million other people.** It made sense for aquariums to connect with that movement and partner with a society ready for change. Something like shark finning is much harder, however, because most Americans probably aren't eating shark fin soup. Part of the success of the ACP is how nimble and flexible it can be with its initiatives. Hap talked about the focus of ACP to impact national policy related to climate change and ocean health. They are able to move swiftly to provide insight, advocacy, and expertise to inform significant decisions. In the last few years alone, they have been able to **influence five new policies for ocean health.**

We asked each of our thought partners what they feel are the biggest challenges facing aquariums in the future. Everyone talked about...

**Public perceptions and the relevance of aquariums:** Society is questioning animals in professional care. The role of aquariums is in question just like zoos. However, as Dolf said, that door is wide open. Aquariums, potentially even more so than zoos, have the opportunity to be champions of change, sustainability, and healthy ecosystems. But to get there, a philosophical shift must happen to point us toward being more transparent and connected with our guests.

**Population sustainability:** Will there be aquariums in the future and can we continue to collect wild species the way we do today? One aspect many might not think of is the complex and rare diets that many of these species require. Can we maintain availability of food for our animal residents? There have been some incredible advances in population breeding and management. The current work on sand tiger sharks is a great example of a collective, advanced research project to breed an iconic aquarium species. In the future, it might be possible to unlock some of these reproductive keys and even reintroduce species back into the wild.

In spite of their differences, zoos and aquariums are ultimately built on the same foundations. The best thing we can do to achieve our common goals is to continue these conversations, connect across our missions, and be open to learning from each other.

## 5 THE BIG CHALLENGES

## SPECIAL THANKS...

... to Hap Fatzinger (North Carolina State Aquarium at Fort Fisher), Rich Toth (Audubon Aquarium), and Dolf DeJong (Toronto Zoo) for helping to lead this fascinating discussion.

## LEARNING FROM AQUARIUMS

Zoos and aquariums share the goals of animal welfare, conservation impact, guest engagement, and empathy development. However, aquariums face unique challenges as they work toward inspiring fascination and care for our underwater animals.

## 1 SIMILAR BUT DIFFERENT

**Collection planning and size is a key area of difference.** Many aquariums are looking at resident animal populations of more than 15,000, much larger than most zoos. For these 15,000 animals, there are extensive and essential life support needs. This density of impact produces another key difference – most aquariums are designed with closer proximity between habitats and are built within a smaller overall footprint than zoos. **Guest fatigue and continued guest engagement** often becomes challenging in these spaces.

There has been a significant growth of aquariums joining AZA and taking a more prominent role in directing and advocating for conservation-based change. One of the many positive outcomes is an **elevated public awareness of ocean health**, which may be at its highest ever as more aquariums step up as champions in that arena.

Aquariums can't exist without life support systems, and for this reason the foundations of many aquarists have been ecologically based. Particularly compared to terrestrial zoos, **aquarium design requires an understanding of healthy ecosystems and complex design** because of the properties required for life underwater. Terrestrial animals, especially mammals, are fairly forgiving of environmental changes, while aquatic species are much less so. Rich Toth, with Audubon Aquarium, discussed the challenges with keeping healthy water systems: "It's all a living system," he said. While it's challenging, we are working harder to develop ways to naturally filter and manage these areas and mimic nature as best as possible. Dolf DeJong, formerly with Vancouver Aquarium, discussed the challenge of guests wanting to see clear, blue water, despite the fact that, in nature, very few underwater environments look this way. Clear water is not necessarily healthy water and it can be challenging to inform guests in an effective way. For example, **how do we interpret places like the Emerald Sea, named after its green-tinted water?**

## 2 LIFE IN THE WATER

Hap Fatzinger, of North Carolina State Aquarium (Fort Fisher), discussed the complexity of aquarium exhibits. They are almost always multi-species, and frequently contain predator/prey relationships. However, an emerging aspect for aquariums is now the welfare of individual animals. It's a **balancing act across healthy systems, complex habitats, and the welfare of all animals.**

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