Engaging PEOPLE Conserving MARINE LIFE

BY ALINA TUGEND

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At the Georgia Aquarium in Atlanta, Ga., visitors can dive and snorkel alongside whale sharks and rays. At the South Carolina Aquarium in Charleston, S.C., guests can observe the process of sea turtle rescue and release and even peer through a window to watch surgery. These initiatives sound like—and are—fun, but the larger goal is to get zoo and aquarium patrons to understand the complex problems these species face.

"Any time you're in the water with something significantly larger than yourself, you have an appreciation of that," said Chris Schreiber, director of fish and invertebrates at the Georgia Aquarium. "By providing people the opportunity, along with some interpretation along the way, we're hoping to inspire action—to conserve resources and take better care of the planet."

Sharks and rays, for example, are facing multiple challenges—overfishing (both targeted and as a byproduct) and changes in habitat. Four years ago, a shark and ray SAFE: Saving Animals From Extinction program was created to influence policy and legislation and educate the public about various species and the dangers they face.

The aim, Schreiber said, is to reach out with multiple messages over time, using social media, television, and education and interaction at aquariums to create a connection to the sharks and rays.

And "any message is more impactful when we have lots of like-minded people working toward a common goal," he said.

At Georgia Aquarium, which has six different species of sharks, one of the focuses is ensuring that its collection is managed sustainably. That means, Schreiber said, that as much as possible, sharks and rays are not brought in from the wild, but bred in aquariums.

"As we grow our collection, we need to do so responsibly," he said. Because of the difficulty in getting some sharks to reproduce in an aquarium—for instance, he said, sand tiger sharks have never been successfully been born in an AZA facility—"we now have a concerted effort with other aquariums to really focus on how to create an environment that would make for successful reproduction."

The SAFE program for sea turtles is expected to finalize their program plan at the Association of Zoos and Aquariums' Annual Conference 7-11 September in New Orleans, La. Each of the six sea turtle species in U.S. waters are listed as endangered or threatened under the Endangered Species Act.

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"The goal of the SAFE Sea Turtle program is to make significant and measurable contributions to the conservation of sea turtles by bringing the collective resources of the AZA community, particularly those members that hold sea turtles in their collections or are engaged with field projects, to secure sustainable populations of all sea turtle species," said Kelly Thorvalson, conservation programs manager at the South Carolina Aquarium.

The primary focus for the first three years of the plan will be on Kemp's ridley and East Pacific leatherback turtles, which are two of the most endangered sea turtle populations.

"If we're all promoting the need to save sea turtles with similar messaging, we're reaching an incredibly large audience," she said.

At the South Carolina Aquarium, the Sea Turtle Care Center is one of its cornerstone conservation programs. The rescue and rehabilitation program began almost 20 years ago and since then, 278 sea turtles have been released into the wild. The number of admissions has grown more dramatically since the program began, which Thorvalson said hopefully shows the success of widespread conservation and education efforts.

"We've seen awareness around sea turtles grow immensely," she said.

Boat strikes are the leading cause of injury and death among sea turtles off the South Carolina coast, but some also become injured or die from becoming entangled in fishing gear or ingested plastic.

Education about sea turtles comes in a multitude of ways at the Aquarium. There's Caretta, the 220-pound, 32-year-old non-releasable loggerhead sea turtle, who lives in a 385,000-gallon tank and is a big attraction. Educational programs and signage around the Aquarium inform and engage guests, and two years ago, the Zucker Family Sea Turtle Recovery opened as both a hospital and guest experience.

Besides allowing visitors to watch through windows into the hospital room; a room with a computed tomography (CT) scan—which has greatly increased diagnostic capabilities—and surgery unit; the Aquarium also offers twice-a-day programming and interactive exhibits.

Educating consumers, restaurants, corporations and yes, even zoos and aquariums on buying and eating fish from sustainable fisheries is another important way to conserve marine life. The South Carolina Aquarium has run a sustainable sea food program since 2002 called Good Catch, which works with local chefs and restaurants to source seafood from the Southeast region, which has some of the most regulated and sustainable fisheries.

The Aquarium partners with approximately 50 restaurants that participate as basic, gold, or platinum; platinum means the restaurant also reduces single-use plastic and follows proper recycling procedures. The Aquarium's website lists the participating restaurant as well as which sea foods are in season when.

"It takes the onus off the diner to get that information," Thorvalson said. "If you make it difficult, people are less likely to do it."

The Monterey Bay Aquarium in Monterey, Calif., has been involved for the past two decades in promoting sustainable fisheries and

aquaculture through its Seafood Watch program, which is now a global initiative, said Karin Stratton, Seafood Watch partnership program manager at the Aquarium.

For example, Seafood Watch works with major seafood buyers to put pressure on their suppliers to encourage sustainable production of wild-caught and farm-raised seafood.

For consumers, Seafood Watch—after a thorough review process—offers seafood recommendations through a regional consumer guide as well as a free app that highlights which seafood items are "Best Choice," "Good Alternatives," or "Best to Avoid." It also tells consumers how they can take action.

One of the goals of the Seafood Watch Conservation Partnership, Stratton said, is to provide easy-to-use tools for zoos and aquariums to source sustainable seafood for both people—through their dining and catering—and the animals in their care.

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"A seal, sea lion, or penguin eats an incredible amount of food every day," she said. "If we can ensure the sustainability of the seafood being sourced at our AZA member organizations, then that will directly impact food availability for their wild counterparts."

Until last year, Stratton also participated in the Vaquita SAFE program, overseeing "culinary conservation." That initiative provides a menu of options for aquariums and zoos to incorporate into their business programs, outreach programs, and advocacy efforts to encourage consumer buying of vaquita friendly products.

Vaquita SAFE was one of the first SAFE programs and shows how efforts to save one species can have ripple effects on other marine life and people who depend on it for their living.

The vaquita, a small porpoise, is one of the most endangered mammals on the planet and are found in a very small area in the northwestern part of the Sea of Cortez in the Gulf of California.

"They are some of the most charismatic and beautiful animals—they are called pandas of the sea because of the black around their eyes," said James Danoff-Burg, director of conservation at the Living Desert Zoo & Gardens in Palm Desert, Calif. The vaquita started to decline in the late 1990s, largely because of shrimp harvesting using gill nets, in which the vaquita would get entangled and drown.

"Vaquitas have a disconcerting habit—which is common with porpoises—when they hit some something, they roll and when they roll into a net, they get tangled up even when the mesh is very small," Danoff-Burg said. "And of course, because they're mammals, they can't breathe underwater and drown."

A gill net ban in the Gulf of California aimed to save the porpoises, but "the decision led to massive social and economic problems for the people of the Upper Gulf," Danoff-Burg said. This has forced some of those who lost their fishing livelihood to illegally fish for totoaba, a very large drum fish, whose swim bladder is prized in China.

"A single swim bladder can be a massive financial windfall," he said.

Nets used to catch the totoaba end up entangling the vaquita as well. Vaquitas are easily stressed which means they can't be taken from their natural environment to breed.

"Unless you address the human dimensions of conservation, you're not fully addressing conservation," said Danoff-Burg.

Nonetheless, Vaquita SAFE itself has been "a success in some sense," he added. "No one knew about the vaquita in the U.S – it was a catastrophe in the making that people were not engaged in. Largely because of the Vaquita SAFE program, Americans now know about it."

Alina Tugend is a writer based in Larchmont, N.Y.

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