

## Conservation at the South Carolina Aquarium

### Introduction

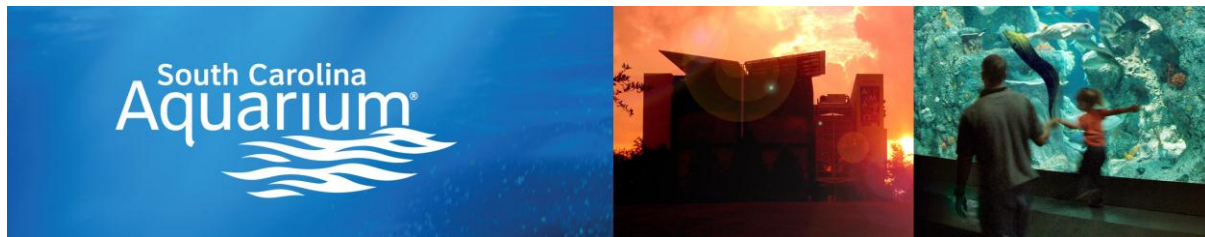
- Although South Carolina is just 300 miles across and 40<sup>th</sup> in size of all the states, it is in the top third of all states in terms of its biodiversity.
- Ultimately, the goal of the Aquarium is to promote the conservation of South Carolina's habitats and biodiversity, so that they can be enjoyed by future generations of South Carolinians.
- A cornerstone to the Aquarium's approach to conservation and its related research projects is the sustainable use of natural resources through careful, science-based management plus consultation and involvement with the various stakeholders.
- Conservation programs and activities at the Aquarium include:
  - Green business practices and operations
  - The Sustainable Seafood Initiative
  - The Sea Turtle Rescue Program

### Green Business Practices

- The Aquarium seeks to encourage others to reduce, reuse and recycle through its own business practices and operations. Aquarium staff and volunteers are committed to recycling paper, cardboard and aluminum and reducing power consumption. The Aquarium also chooses recycled products for routine operations whenever possible.
- Caterers are required to choose local seafood that has been caught in a sustainable fashion.
- Almost all of the exhibits' life support systems reuse and recycle water. These practices also help control operating costs and maintain optimal conditions for the diverse living collection.
- The Aquarium also develops seasonal programs with conservation themes, such as demonstrating ways to reduce waste and recycle around the Christmas holidays.

### Sustainable Seafood Initiative

- The goal of the Sustainable Seafood Initiative (SSI) is to promote the conservation of fishery resources and the use of locally and domestically harvested seafood by teaching chefs how to make wise seafood choices. Sustainable seafood is fish that are caught or farmed with consideration for the long-term viability of individual species and for the oceans' ecological balance as a whole. In other words, sustainable seafood is fish for the future.
- Our target audience is chefs, especially high-end chefs that set culinary trends, because over 70% of seafood is sold in restaurants. All SSI partners pledge to remove orange roughy, Chilean sea bass and imported shark from their menus and increase the use of sustainable, especially local, seafood.
- All partners receive an educational binder containing information on seafood sustainability and fact sheets on individual fish species. A quarterly newsletter updates partners on sustainable seafood issues and comes with a new species fact sheet for the educational binder.
- Each season the SSI promotes a specific sustainable seafood species as the Signature Seafood. Chefs are encouraged to feature that item and are provided with appropriate educational information.
- Sustainable Seafood Initiative partners may upgrade to a Gold or Platinum Partnership by submitting their menu for an assessment of the sustainability of the seafood items. This special program allows the SSI to

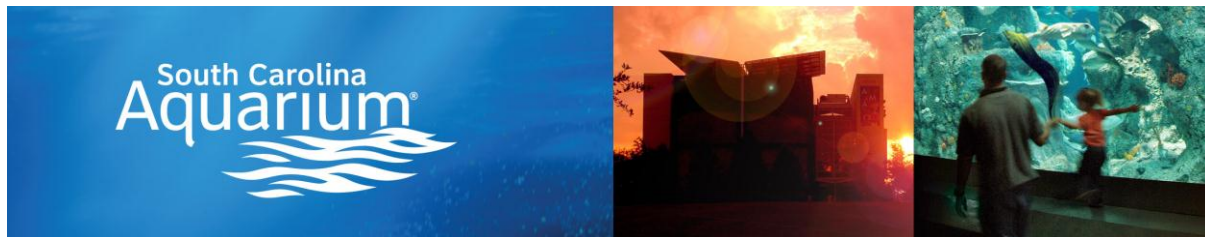


better promote the partners who make the greatest efforts to serve sustainable seafood and further educates the partners.

- The SSI now includes 80 restaurant partners, six caterers, and five retail/wholesale partners and has expanded outside of the greater Charleston area as chefs and restaurants from Beaufort, Hilton Head, the Grand Strand, the Midlands and the Upstate join the Initiative. Nearly 20% of SSI restaurant partners have participated in the menu assessment program and are Gold or Platinum Partners.
- The SSI provides educational lectures for both high school and college (The Art Institute and the Culinary Institute of Charleston) culinary students to introduce the concept of sustainable seafood and issues to consider.
- The SSI is led by an interdisciplinary team including the South Carolina Aquarium, the University of South Carolina Baruch Institute, the South Carolina Seafood Alliance, the South Carolina Sea Grant Consortium, Patrick Properties, The Art Institute, The Culinary Institute of Charleston and Lowcountry Local First.
- The SSI has been recognized as one of the key sustainable seafood programs in the east and has served as a model for other budding sustainable seafood programs nationally and internationally. Our success is largely due to the simplicity and regionality of our approach. Chefs find the criteria easy to accept and the educational information brief but helpful.

### **Sea Turtle Rescue Program**

- The South Carolina Aquarium established a sea turtle hospital in 2004. Prior to this time there was no dedicated turtle rescue and rehabilitation facility in South Carolina. The nearest rehabilitation centers were in Florida and North Carolina. The central location of the Aquarium on the South Carolina coastline provides a logistical advantage through which turtles from either end of the state can be handled with a minimum of stress. Additionally, the state's longer warm season allows for more cost efficient rehabilitation efforts.
- The Charleston area has the largest 'in state' cluster of knowledge and technology required to hold and help turtles. The area has three four-year colleges and one research university that provide services and expertise to our conservation efforts, and numerous conservation organizations that provide volunteers and networking opportunities. Charleston is the home to one of the leading researchers in sea turtle endocrinology, to the South Carolina Department of Natural Resources Office (responsible for sea turtle protection and research) as well as to numerous other marine research groups.
- Prior to the official opening of the Aquarium, the staff began working with the South Carolina Department of Natural Resources, at that agency's request, to temporarily hold stranded turtles prior to their delivery to care facilities in other states. Out of a necessity created by the expectations of the public and various government agencies, the Aquarium expanded its medical capabilities over time and provided immediate and long-term care (longer than one year) to turtles.
- The Aquarium received an increasing number of turtles each year and housed these sick animals in a small number of backup pools away from the public exhibits. In 2003, the Aquarium received and provided medical care to nine turtles.
- With a grant from the National Fish and Wildlife Federation, the Aquarium officially established a sea turtle hospital in 2004, along with educational programs to promote sea turtle conservation. The hospital now provides high quality care for sea turtles from the South Carolina and Georgia coastline. Additional funds for the hospital and outreach efforts were secured in 2006.



## Other Conservation Initiatives

### *Coastal Ecosystem Learning Center*

- In February 2001, the Aquarium was designated as a Coastal Ecosystem Learning Center by Coastal America. This designation facilitates collaboration with the federal agencies that make up this active partnership, and between the Aquarium and the 13 other learning centers, especially those in the southeast region.

### *Urban Sprawl*

- The Aquarium has partnered with the South Carolina Coastal Conservation League (SC CCL) to raise awareness concerning the alternatives to urban sprawl. To date, this partnership has involved incorporating pertinent information into the Aquarium's school program materials and in *Tributaries*, the Aquarium member's magazine, and inviting SC CCL to participate in on-site events at the Aquarium.
- The SC CCL also assisted in helping Aquarium staff prepare a team of high school students to participate in the National Student Ocean Summit held in Washington D.C. in January 2004. This program, sponsored by Coastal America, invited teams from the regions surrounding each Coastal Ecosystem Learning Center including the South Carolina Aquarium. The students presented at the White House and at NOAA offices before members of the President's Commission on Ocean Policy and other administration officials.

### *Beach Sweep and Adopt a Beach*

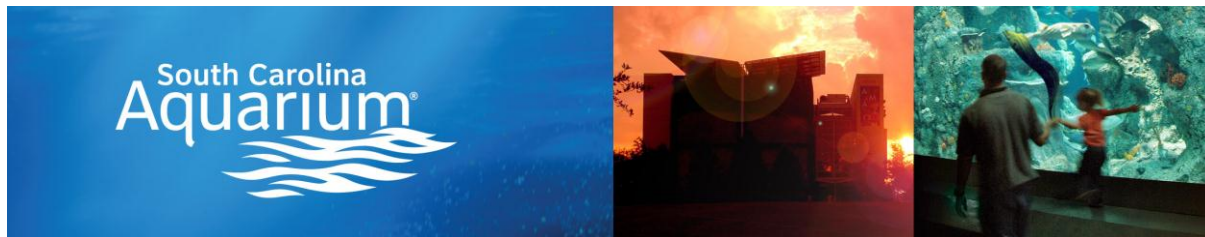
- Each year the Aquarium participates in the Ocean Conservancy's National Beach Sweep program. The primary organizers in South Carolina are the South Carolina SeaGrant Consortium and the SC DNR, and Aquarium staff and volunteers assist in the effort to remove debris from local beaches (as well as the banks of rivers as a part of River Sweep).
- In 2006, the Aquarium adopted a six block section of Folly Beach to sweep on a monthly basis. Aquarium staff volunteers their time to help in this effort.

### *Gray's Reef National Marine Sanctuary*

- The Aquarium has partnered with the Gray's Reef National Marine Sanctuary to promote the National Marine Sanctuary Program, and working with the League of Women's Voter and SC CCL, has hosted public meetings on marine sanctuaries and mercury levels in fish. Further public forums are planned.

### *Robust Redhorse Conservation*

- In February 2001, the South Carolina Aquarium became the first public aquarium to join the Robust Redhorse Conservation Committee. The robust redhorse is a large and very attractive freshwater fish that was lost to science for over one hundred years, largely as a result of habitat alteration and perhaps overfishing. The conservation committee is responsible for developing a multifaceted conservation effort for the species, involving various state and federal agencies, universities and public and private organizations.
- The Aquarium has displayed the Robust Redhorse with accompanying graphics and has trained docents and staff to interpret the story of this unique fish. The Aquarium husbandry staff has participated in



sampling efforts and captive raising of the animal as well as mark/recapture studies to reestablish the population of this fish throughout its historic range.

#### *Freshwater Mussel Conservation*

- Discussions between the US Fish and Wildlife Service and Aquarium staff in 2003 led to the realization that freshwater mussel species were in peril and, while there was research that had been done in the state, there was no comprehensive research plan or effort. The Aquarium agreed to help organize a meeting at this time, partnering with the USFWS and the Nature Conservancy. This meeting was successful and the effort has continued.
- The third annual South Carolina Freshwater Mussel Symposium was held at the South Carolina Aquarium, January 24-25, 2006. This event, co-sponsored by the SC Aquarium, The Nature Conservancy and the U.S. Fish and Wildlife Service, brought together state and Federal agencies, consultants, private industry, educational institutions, and NGOs from North Carolina, South Carolina and Georgia to discuss freshwater mussel conservation issues in South Carolina.
- These symposia have been very successful at identifying needed conservation measures for the freshwater mussels of South Carolina. By bringing professionals together from across the state and opening up avenues for cooperation, this group has been instrumental in conducting surveys, advocating for cleaner waterways, and putting together land protection projects that will protect critical habitats for many aquatic species, especially the federally listed Carolina heelsplitter (*Lasmigona decorata*). The group met again in January 2007.

#### *Oyster Reef Restoration*

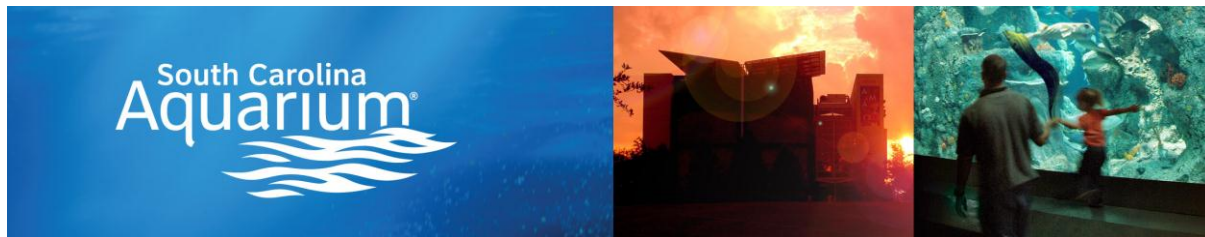
- The South Carolina Department of Natural Resources initiated South Carolina Oyster Restoration and Enhancement (SCORE) to increase oyster habitat and the SCA has been a partner for some time. There are two major components: oyster shell recycling and community-based restoration. The public is encouraged to recycle oyster shells so that they can be used in the restoration process, and seven recycling centers have been established throughout the local area. SCA promotes shell recycling in its volunteer newsletter. The community-based restoration part of the program works with local citizen groups to conduct habitat restoration projects. The projects include building new reefs with recycled oyster shell and monitoring reef development. SCA staff and volunteers helped build a reef adjacent to the aquarium and continue to monitor its progress with weekly water quality testing.

#### *Diamondback Terrapin Conservation*

- Funding made available through the SC Department of Health and Environmental Control has recently made possible a conservation effort to help the Diamondback Terrapin, a small turtle inhabiting the coastal marshes of South Carolina. The turtle is often adversely affected by crab traps set to catch the blue crab. Turtles are able to enter the trap, but cannot escape and drown. Aquarium staff and volunteers will begin this year to install terrapin excluders into recreational crab traps at sites throughout coastal South Carolina.

#### *Recycling Programs*

- *Cork Recycling Efforts*



- As of March of 2010 the Aquarium has collected around 672 lbs of cork since beginning the program on May 12, 2009. (2010 the Aquarium collected 11,000 corks or 250 lbs)
- 672 lbs of cork equal around 29, 554.60 corks
- Currently the program has 14 cork recycling partners and it is always looking to add more!
- Since inception, the program has collected cork from places as far away has Charlotte, N.C. (*thanks to Mark Black a participating bartender at the Charlotte International Airport*) and Greenville, S.C. (*American Grocery Restaurant a Sustainable Seafood Initiative partner*).
- Cork is additionally collected at special events such as the BB&T Wine +Food Festival as well as on-site special events at the Aquarium with the help of Stephan Duvall Catering.
- The program currently collects both natural and synthetic corks, but no screw caps yet.
- Natural cork is great because it is a sustainable renewable material source and is biodegradable. Over 13 billion are produced every year!
- All natural cork comes from Cork Oaks where the trees are not cut down and only the bark is removed. The First cork harvest comes after the tree is 25 years-old and is only harvested every nine to 12 years.
- These cork oaks live on average to be 250 to 300 years-old.
- The cork oak forest (around 6.6 million acres in the Mediterranean) provides habitats for thousands of plants and animals. A biodiversity second only to the Amazon Rainforest (according the Cork Reharvest.org).
- Because trees absorb CO<sub>2</sub> and cork is made from the bark of Cork Oak cork has a natural property of reducing CO<sub>2</sub>. Research conducted by the National Engineering and Industrial Technology Institute of Portugal shows that the average 750 ml bottle of wine absorbs around 9.7 grams of CO<sub>2</sub>. So if we assume half the recycling collection is natural cork (14,777.3 corks) to-date the programs efforts would reduce CO<sub>2</sub> by 321.9 lbs or 143,339 grams. (This does not take into account the increased absorption from the Cork Oaks as they grow to reproduce the bark that has been harvested.)