



Virginia Aquarium & Marine Science Center *Green Practices Overview – October 2020*

The Aquarium is committed to educating the public about the marine environment and inspiring conservation of wildlife and wild places. Created in 2016, the Aquarium Conservation Plan includes Education, Research and Sustainable Practices as the three key areas of focus. Our Green Team promotes environmentally responsible and sustainable operations, and awareness in the community about green resources and practices, in support of the Aquarium's conservation mission. The Aquarium has received numerous awards for its sustainability efforts and green programs. Projects have received grant funding from Keep Virginia Beautiful, Virginia Beach Clean Community Commission, Virginia Coastal Zone Management Program, National Oceanic and Atmospheric Association, and the Environmental Protection Agency.

Green Practices Overview:

1. Recycling and Re-use

- a. Recycling receptacles in all personal work spaces
- b. Recycling receptacles available to guests inside Aquarium
 - i. Giant screen 3D theater
 - ii. Food service areas
 - iii. General areas
 - iv. Special events, including facility rentals
- c. Recycling instituted on all Aquarium boat trips
- d. Plan to install recycling receptacles in all parking lots by 2021
- e. Highly visible signage/messaging promoting recycling and bins
 - i. Recycling messaging in all food service areas
- f. Promotion in newsletters
- g. Newsletter is mostly electronic and when printed uses soy-based inks on post-consumer recycled paper
- h. Advertising billboards produced with recycled/recyclable products
- i. Products being recycled
 - i. Aluminum cans

- ii. Glass
- iii. Steel cans
- iv. Plastic bottles
- v. Bottle caps
- vi. Plastic bags, films, wrapping, bubble wrap, etc.
- vii. Office paper
- viii. Clean office paper shredded for animal bedding substrate
- ix. Newspaper
- x. Cardboard
- xi. Chip bags
- xii. Candy wrappers
- xiii. Energy bar wrappers
- xiv. Cooking grease
- xv. Batteries (except for alkaline batteries)
- xvi. Electronics equipment
- xvii. Building materials
- j. Products being re-used
 - i. Packing supplies, including peanuts
 - Packing supplies that are reused are accompanied by a form letter stating that the Aquarium recycles by reusing materials
 - ii. Re-use gift boxes
 - iii. Toner cartridges
 - iv. Switched from single-use plastic bottles to reusable, now autoclave glass bottles for microbiology samples in water quality lab
- k. Hazardous materials – safe disposal
 - i. Paint waste
 - ii. CFLs
 - iii. Medical waste

2. Waste Reduction

- a. Tracking waste bills and quantities
- b. Effectively use cups to promote/allow minimal waste and recycling
- c. Green food service and catering provider
- d. Water bottle fill stations being installed with upgraded water fountains
- e. Composting program
 - i. EPA funded pilot study started the program
 - ii. Food service provider composting in all operations
 - iii. Aquarium composting all back-of-house operational wastes (food, animal waste, etc.) in on-site and offsite compost facilities
 - iv. Animal bedding made from recycled paper then composted
 - v. Composting napkins, paper towels, dryer lint
 - vi. All compost and mulch used by Aquarium produced on-site
- f. Office waste reduction
 - i. 2-sided copies are standard operation mode
 - ii. Electronic correspondence and forms replacing paper

- iii. 100% post-consumer recycled content in office paper
- g. Using “green” housekeeping practices
 - i. Green cleaning supplies
 - ii. Recycled content paper towels and toilet paper
- h. Purchase of durable equipment and furniture
- i. Specified use of latex or low VOC paint
- j. Specified use of less toxic materials
- k. Specified use of building materials from sustainable sources
- l. Preventative maintenance of all vehicles and equipment
- m. Cigarette Butt Litter Prevention Program
 - i. Installed specialized butt litter disposal receptacles outside all public entrances

3. Water

- a. Tracking overall water usage and wastewater
- b. Preventative maintenance of drips and leaks
- c. Water flow metering to discover leaks and areas of high use
- d. Low flow fixtures – toilets, shower heads, faucets
- e. Effective landscape management plan which utilizes drought tolerant species and other techniques
- f. Cisterns and drip-line irrigation
- g. Vegetative buffers around streams and ponds
- h. Well-water use when possible
- i. Virginia DEQ-approved water quality lab for Citizen Science, Community Water Quality Monitoring Program
- j. First sanctuary oyster reef (shell, oyster castles and submerged reef) installed in Owls Creek/Rudee Inlet watershed in summer 2015 (partnership with Rudee Inlet Foundation)
- k. Protocols for water use reduction in exhibits
- l. In-house production of deet-free insect repellent, reducing pesticides

4. Energy

- a. Tracking overall energy bills
- b. High efficiency HVAC
- c. Re-commissioning of HVAC systems – installation of variable frequency drives on motors
- d. Control of HVAC through building automation system
- e. Use of natural lighting
- f. Lighting sensors control for occupancy to save energy
- g. High efficiency fluorescent ballasts and lamps
- h. Retrofitting fixtures with high efficiency LEDs
- i. Specification to purchase EnergyStar computers, appliances, etc.
- j. Energy audit of all facilities (completed in 2010)
- k. In-house Energy Conservation Team
- l. Premier parking for energy efficient vehicles

- m. LEED requirement by City for all new construction
- n. Aquarium equipment such as pumps selected for electrical efficiency
- o. Aquarium LSS staff win award for re-design of Chesapeake Bay Aquarium resulting in more energy efficient filtration system design and lighting

5. Activities

- a. Parking lot recycling and cigarette butt litter pilot project – Conducted over a summer with data and survey responses collected
- b. Golf Tournaments (*Aquarium Golf Classic*)
 - i. Re-usable bags for goody bags
 - ii. Recycling collection of beverage containers
- c. Environmental Actions and Education
 - i. “Trash Bash” annual public awareness event
 - ii. Composting presentation for Homeschool Students
 - iii. Back Bay National Wildlife Refuge beach clean-ups
 - iv. Fishermen Island beach clean-ups
 - v. Clean the Bay Day annual site
 - vi. International Coastal Cleanup annual site
 - vii. NOAA grant-funded monthly marine debris surveys of Virginia coast (2014-2018)
 - viii. Owls Creek “Adopt-A-Waterway” Program
 - ix. Dune Restoration Project with National Aquarium in Baltimore and U.S. Navy
 - x. “Carbon Offset” programs associated with hosted meetings
 - xi. *Sensible Seafood Fest: A Celebration of Sustainable Foods* – week of events focused on sustainable, local seafood
 - xii. The Aquarium was a flagship co-sponsor of NuRide, which encourages the use of alternative transportation
 - xiii. Participate in the Virginia Beach Sustainable Living Expo
 - xiv. Collaboration to install waste pump-out facility for vessels in Rudee Inlet adjacent to Aquarium site and on the ocean side of the Rudee Inlet bridge (for larger transient vessels)
 - xv. Hosted inaugural Virginia Marine Debris Summit in 2013
 - xvi. Hosted inaugural Virginia Green Conference in 2014
 - xvii. NOAA and Virginia CZM Program Marine Debris Reduction Grant in collaboration with Clean Virginia Waterways/Longwood University
 - xviii. Support ongoing balloon debris research on coastal beaches in collaboration with Clean Virginia Waterways/Longwood University
 - xix. Serve on leadership team to develop and implement Virginia’s Marine Debris Reduction Plan
 - xx. Serve on planning team to develop and implement grant-funded social marketing campaign to reduce balloon releases in Virginia

- xxi. Providing survey data and expert testimony in support of legislative efforts to ban intentional outdoor releases of balloons and to reduce or eliminate the retail use of single-use plastic bags
- xxii. Aquarium campus certified as Backyard Wildlife Habitat by the National Wildlife Federation
- xxiii. Aquarium campus certified as a Monarch Waystation through MonarchWatch.org
- xxiv. National Pollinator Awareness Week events
- xxv. Sponsor of 2018, 2019 and 2020 Plastic Free July challenge for participating zoos and aquariums
- xxvi. Citizen Science Water Quality Lab Behind the Scenes Experience: allows participants to get an in-depth, hands-on look at what field and lab biologists do to track and improve water quality
- xxvii. Youth Ocean Conservation Summit (satellite location) – annually since 2018
- d. E-Cycling Events
 - i. Partner with Goodwill and TFC Recycling
 - ii. Annual events initiated in 2009
 - iii. Have recycled more than 330 tons of electronic waste
 - iv. Have instituted household hazardous waste collection as part of events
 - v. E-Cycling event structure serves as a model for other groups
- e. Outreach Programs
 - i. Stranding Response Outreach Team
 - ii. *Trash Talking Turtles* marine debris education program
 - iii. *Boat Safely ~ Respect Wildlife* Program
 - iv. *Sensible Seafood* Program – promoting seafood that makes sense for a healthy marine environment
 - v. Presented *Sensible Seafood Program* at Association of Zoos & Aquariums national conference since 2013, and multiple regional and local events
- f. Retail Stores
 - i. Recycled and Fair Trade merchandise in stores is more than 5% of inventory
 - ii. No plastic bags distributed in retail stores for purchases made
 - iii. Reusable bags and paper bags are available in retail stores
- g. Green Team meets monthly and acts daily
- h. Green Star Awards initiated in 2017 for staff that are nominated for their green and sustainable practices

6. Awards

- a. Named First “Virginia Green” Attraction in 2008
- b. Annually recognized as a Virginia Green Travel Leader since 2009
- c. 2011 Virginia Green Travel Stars Award – “Most Innovative Green Project” for the Aquarium’s E-Cycling Program

- d. 2012 Award for Excellence in Recycling as “Outstanding Non-Profit” from the Virginia Recycling Association
- e. Aquarium staff (April Strickland) received the 2012 National Tourism Week “Corporate Social Responsibility Award” from the City of Virginia Beach
- f. 2013 Virginia Green Travel Stars Award – “Green Attraction of the Year”
- g. Virginia Beach Clean Community Commission “Certificate of Commendation” awards for Owls Creek/Rudee Inlet clean-up efforts in 2013, 2014, 2015
- h. Aquarium staff (Karen Burns) received the 2015 National Tourism Week “Corporate Social Responsibility Award” from the City of Virginia Beach
- i. Sensible Seafood Fest – a Virginia Green Certified event celebrating sustainable seafood: all waste composted; compostable table ware; collectible glassware for beverages; event awards for participating restaurants/chefs include “most sustainable presentation”
- j. Virginia Green Travel Stars Award – “Green Event of the Year” in 2016 for the Sensible Seafood Fest
- k. Multiple grant awards from Keep Virginia Beautiful to support the Aquarium’s green projects
- l. 2017 Virginia Green Travel Stars Award – “Most Innovative Green Project” for the Aquarium’s “In Our Hands” campaign with national aquarium partners to eliminate single-use plastics such as straws, bags and bottles.