



Life Support Systems

With more than 10 million gallons of water in over 60 habitats, Georgia Aquarium possesses the largest and most technologically advanced pump and filtration system in an aquarium. The Aquarium's life support equipment is highly automated and controlled by a state-of-the-art system that can make 150 million decisions per second through network of 24 computers. There are more than 4,500 alarm points in the Aquarium's life support computer system that will automatically alert technicians to any abnormalities. Included is a secure wireless network which allows the Aquarium's team the ability to control pumps, valves and water flow from anywhere in the building. Additionally, Aquarium laboratory staff test the water quality twice daily to ensure it is safe for all the animals.

The Aquarium's filtration system contains more than 70 miles of pipe, more than enough to encircle the city of Atlanta on the I-285 loop. In the Aquarium's life support systems, there are 506 pumps using over 5,500 horsepower to move more than 300,000 gallons of water every minute. The water is moved through 187 sand filters, 91 protein skimmers and 76 towers. The order placed for the pumps at Georgia Aquarium's opening was the largest single order ever made for an aquarium.

Sand filters are often found in home swimming pools, just on a much smaller scale. Ocean Voyager, built by The Home Depot, has 1,200 times the filtration power than the average swimming pool pump. As the unfiltered water flows from the Aquarium, pumps push water down through the sand in filters which catches dirt and debris larger than 20 microns. The filtered water flows through the filter and back into the Deaeration Tower which gravity feeds back into the Aquarium at low velocities.

Georgia Aquarium's 91 protein skimmers simulate a process found in nature used to rid the water of waste. In nature, air bubbles are formed by crashing waves which create foam and carry waste out of the water on the surface tension of the bubbles. In the Aquarium, the protein skimmers create those air bubbles and foam through air injection and clean the water through the same principal.

The heating and air conditioning system has 4,300 tons of cooling capacity, enough to cool over 1,400 average-sized homes. The heating and cooling capabilities of the building are designed to maintain tight water temperature parameters in the exhibits to within tenths of a degree Fahrenheit. This is necessary to provide top of the line care for the Aquarium's many aquatic inhabitants.

Georgia Aquarium practices water conservation techniques in the cleaning of its exhibits. Due to the operational improvements within the life support systems, the Aquarium will save approximately 4.5 million gallons per year. All Georgia Aquarium exhibits are closed loop systems in which the water is

filtered, treated as required and returned to the exhibit. Using advanced filtration and water reclamation techniques, the Aquarium is able to recycle and reuse more than 99.5% of its exhibit water volume each week. All of this while still maintaining the highest standards of water quality for the care of the animals living at Georgia Aquarium.

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For additional information, please contact Public Relations:

Ashley Lansdale
Manager
(404) 581-4251

alansdale@georgiaaquarium.org

Francesca Allegra
Specialist
(404) 581-4391

fallegra@georgiaaquarium.org

Mackenzie Whalen
Specialist
(404) 581-4230

mwhalen@georgiaaquarium.org

About Georgia Aquarium

Georgia Aquarium in Atlanta, Georgia, is the world's largest with more than ten million gallons of water and the largest collection of aquatic animals. The mission of Georgia Aquarium is to be an entertaining, educational and scientific institution featuring exhibits and programs of the highest standards; offering engaging and exciting guest experiences promoting the conservation of aquatic biodiversity throughout the world. Georgia Aquarium is an accredited member of the Association of Zoos and Aquariums and the Alliance of Marine Mammal Parks and Aquariums. For additional information, visit www.georgiaaquarium.org.