



GEORGIA AQUARIUM

at Pemberton Place

LIFE SUPPORT SYSTEMS

With more than eight million gallons of water in 60 habitats, the Georgia Aquarium opened with the largest and most technologically advanced pump and filtration system in an aquarium. In late 2006, the Georgia Aquarium undertook a 270-day process to upgrade its pumps and filters and made the world's largest aquarium's life support system even larger.

The Aquarium's life support system is highly automated and controlled by a high-tech system that can make 150 million decisions per second through eleven computers. There are 3,000 alarm points in the Aquarium's life support system that will automatically page technicians to alert them to any trouble. A secure wireless system allows the Aquarium's team to be able to control valves and flow from anywhere in the building. Additionally, Aquarium staff test the water quality twice daily.

The Aquarium contains 61 miles of pipe, enough to more than encircle the city of Atlanta on the I-285 loop. In the Aquarium's life support systems, there are 234 pumps using 4,560 horsepower to move 275,000 gallons of water per minute. The water is moved through 157 sand filters, 78 protein skimmers and 68 towers. The order placed for the pumps at the 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. In the Ocean Voyager gallery alone, the Georgia Aquarium has 725 times the filtration power per minute than the average swimming pool pump. As the unfiltered water flows from the Aquarium, pumps push water down through the sand which catches dirt and debris. The filter water flows through the filter and back into the Aquarium.

The Georgia Aquarium's 78 protein skimmers simulate a process found in nature used to rid the water of waste. Air bubbles formed by crashing waves carry waste out of the water on the surface tension of the bubbles. In the Aquarium, the protein skimmers create those air bubbles and clean the water through the same principal.

The heating and air conditioning system has 3,600 tons of cooling capacity, enough to cool 1,200 average-sized homes. The heating and cooling capabilities of the building are designed to maintain tight water temperature parameters in the exhibits.

The Georgia Aquarium practices water conservation techniques in the cleaning of its exhibits. Due to the operational changes within the life support systems, the Aquarium will save approximately 4.5 million gallons per year. All Georgia Aquarium exhibits are closed systems in which the water is filtered, treated as required and returned to the exhibit. The Aquarium recycles and reuses as much water as possible within the limits of providing our animals with the best care.

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About the Georgia Aquarium

The Georgia Aquarium in Atlanta, Georgia, is the world's largest with more than eight million gallons of water and the largest collection of aquatic animals. The mission of the 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. The 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.