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## **Underwater in Washington, DC**

The grandly named National Aquarium in Washington, DC, which claims to be the nation's oldest noncommercial aquarium, has long been one of the oddities of the city's tourist circuit. The address could hardly be more central, but the location-in the basement of the main Department of Commerce building on 14th Street, NW-is undeniably surprising, and it had in recent decades started to look dated. Worse, poor water quality meant it could house only a few fish, all notably hardy species. Unsurprisingly, officials at the National Oceanographic and Atmospheric Administration (NOAA), which is administratively part of the commerce department, decided a few years ago to either "fix it or close it," according to Andy Dehart, director of biological programs at the aquarium.

Happily, the agency decided to fix the 77-year-old facility, and NOAA found \$1.5 million to set in motion a renovation. The aquarium, which is run as a nonprofit corporation, partnered with the National Aquarium in Baltimore. That much larger institution provided materials, equipment, and design expertise for an "extreme makeover." The Washington aquarium now boasts a thoroughly modern look, 66 exhibits, and a new, conservation-based theme: US National Marine Sanctuaries.

Gone are the brass rails to keep the public from getting too close and the monumental stone decor. Now visitors walk cocooned between black carpet and black ceiling, their path illuminated by the back-lit graphics and in-tank lighting that are de rigueur in a 21st-century aquarium. Visitors are encouraged to approach the specimens nose-to-nose if both care to. More important, Dehart explains, the tanks boast up-to-date carbon and resin filtration for treatment of the municipal water supply, which removes chloramine disinfectant before salt is added for the marine exhibits. As a result, the aquarium can now display live corals and other sensitive invertebrates. A typical 900-gallon tank houses 25 fish, as compared with 4 before the restoration, Dehart notes, and the aquarium is home to more than 200 species.

Displays represent ecosystems from a wide range of US marine sanctuaries, in addition to the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. Specimens are collected sustainably or come from "ecologically friendly" donors, Dehart is quick to point out. Research efforts focus on the lionfish invasion in the Caribbean; coral reef conservation in the Bahamas; and conservation of the hellbender, North America's largest salamander, which is on display (along with the reviled snakehead) in the aquarium's freshwater galleries. A display that recreates an Amazonian ecosystem, a conservation hotspot, is the one non-US themed exhibit. In a city that worships big budgets, the DC aquarium is a refreshing change. Moreover, at \$7 admission for an adult and \$3 for a child, it would be counted a good deal anywhere except in the nation's capital, where it must compete with the Smithsonian's free museums.

Apropos ocean exhibits in Washington, the National Museum of Natural History, a few blocks away from the National Aquarium, opened its new Sant Ocean Hall in late September. Here visitors enjoy a wide variety of high-tech information displays and exhibits, as well as a high-definition underwater film. The hall also retains some animal displays from its previous incarnation. Dominating the floor is a suspended model of a 45-foot North Atlantic right whale, and a 24foot-long giant squid fills a hefty display tank. The squid lacks its integument and is noticeably a little the worse for wear (it was hauled up by a trawler), but the museum is happy that it has been able to display the creature with its tentacles fully outstretched, bathed in a nonflammable, ozone-friendly preservative. The dense fluorinated ether is said to be exceptionally clear and nondestructive of natural pigments, but it is immiscible with water, so specimens have to be held down in it as water is slowly squeezed out of them. Curators maintain, however, that the liquid, donated by the 3M company, has shown its mettle in tests. A coelacanth is displayed in the same liquid.

As at the National Aquarium, a strong conservation theme informs the exhibits, which center around the idea that the ocean is essential to life, "including yours." With the natural history museum being one of DC's most popular destinations for visitors, the new hall has huge potential to educate and inform people about the sadly depleted state of many of the world's ocean ecosystems.

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