Big window to the sea

A symphony of fish at world's largest indoor aquarium

By Peggy Mihelich
CNN.com

Wednesday, November 23, 2005 Posted: 1715 GMT (0115 HKT)

ATLANTA, Georgia (CNN) -- Behind a massive acrylic window, golden trevally move in sync, a sawfish pokes through the sand and a whale shark glides slowly and steadily overhead -- an aquatic ballet set to music.

"We want to be the world's most engaging aquarium," says Jeff Swanagan, executive director of the Georgia Aquarium in Atlanta, which will open on November 23, billing itself as the world's largest indoor aquarium.

To achieve that, the aquarium built enormous tanks that sprawl and curve -- giving visitors the chance to virtually dive into the fishes' world and swim side-by-side with them. (A chance to go face-to-face with beluga whale)

Interactive stations and touch tanks let visitors feel the bumpy ridges of a starfish or caress a stingray as it glides through the water.

"We tried to use music and drama -- theater as well as science -- to

Enormous tanks that sprawl and curve give visitors the chance to virtually dive into the fishes' world.

Interactive: Tour the aquarium
achieve that connection," Swanagan said.

More than half of the animals come from aquaculture or fish farming. Most of the fish were flown from overseas farms via UPS or trucked from coastal Georgia and Florida to a warehouse where they underwent a 30-day quarantine before transfer to their permanent exhibits.

Some of the animals, such as the sea otters, beluga whales and penguins, came from other zoos or aquariums.

The Georgia Aquarium holds more than 8 million gallons of water to house well over 100,000 fish. It's a leap in size and capacity over the next largest aquarium -- Chicago's Shedd, which holds 5 million gallons of water to support 20,000 aquatic animals.

The $200 million building, designed to look like a ship breaking through a wave, was a gift from Home Depot founder Bernie Marcus.

"We've been working on this for almost two years. We have 125,000 fish here to give us an opportunity to do something that nobody in this industry has ever done before," Marcus told a press conference.

The facility hosts five viewing galleries along with a 4-D movie theater that explores the sea creatures that inhabit both fresh- and saltwater around the globe.

The aquarium expects 2.4 million visitors in the first year and to bring $1 billion into the city over the next five years. (Full story)

So where did a landlocked city get all that saltwater? It's city water chemically treated with a product that's available at most pet stores.

"Most aquariums located on a coast don't use the water. It's usually too polluted," Swanagan explained. "Most have to use [the product] 'Instant Ocean,' you have to make the water."

Computers monitor the life support system and regulate the water filtration. The water is recycled to minimize waste.

"We respect the water, and use the water. We don't just let it go down the drain. We treat this water like gold. The only water loss is evaporation," said Swanagan.

**FACT BOX**

**FISH FACTS**

-- The beluga whale is found in arctic and subarctic waters. The body of a beluga whale is stocky and has separate layers of blubber to help keep warm.

-- The whale shark is the largest of all fishes, it is not a whale. A whale shark uses its huge mouth to feed on plankton.

-- The largetooth sawfish is listed as endangered by the World Conservation Union (IUCN). Their saws are often sold as tourist souvenirs.

-- The hammerhead shark moves forward with the straight forward intensity of a big rushing truck. Most hammerheads are killed by humans for its meat, cartilage, fins, oil and for sport or as bycatch.

-- The lagoon jellyfish is 97 percent water. A jelly has thousands of poisonous microscopic harpoons on its tentacles.

*Source: The Georgia Aquarium*

**GEORGIA AQUARIUM PRICES**

<table>
<thead>
<tr>
<th>Category</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>$59.50</td>
</tr>
<tr>
<td>Children</td>
<td>$43.25</td>
</tr>
<tr>
<td>Seniors</td>
<td>$48.75</td>
</tr>
</tbody>
</table>
Niko and Gasper, two male Beluga whales, left poor living conditions -- an exhibit under a rollercoaster at a Mexico City amusement park -- for Atlanta.

"The conditions there were not as good as we would want them to be but the people from Mexico were doing the best they could," said Dr. Tonya Clauss, the aquarium's assistant manager of veterinary services.

The two are being treated for some minor skin problems that probably resulted from the less-than-ideal water conditions in Mexico, but their overall health is very good, Clauss said.

"They started eating the first day and have been doing great," she said.

Their new tank will provide them with more room and additional tankmates -- three female belugas from New York, affectionately called by the vet staff "the New York ladies."

Clauss says all five are getting along well.

And if the Mexican boys and the New York ladies get a little too friendly?

"We wouldn't be upset at all if that happened," Clauss said with a smile.

"We have an ultrasound machine, similar to what you would find in human medicine. It would help us out in detecting a little baby beluga."

Three full-time veterinarians along with a staff of students from the University of Georgia will tend to the needs of the aquarium's residents as well as conduct research from a $5 million onsite hospital. (Tour the facility)

"What we are trying to do here is make sure nutrition is optimized, make sure the space and the water quality is optimized so we reduce stress -- that's the name of the game," said Dr. Howard Krum, the aquarium's manager of veterinary services.

He added "We haven't had any serious medical emergencies yet." But should an animal like a beluga whale get sick, it could be lifted from its tank, transported down to the vet clinic and wheeled right into surgery.

Once there, medical equipment to rival any human hospital's is available.

Krum said that with a digital radiography machine, "We don't develop [X-ray] films anymore. You just slide the
plate under the animal, take a shot and you've got an instant image” on a computer monitor.

For the largest patients like the two male whale sharks, treatment would be given in their exhibit at a sectioned-off medical pool.

**Big fish**

Whale sharks are the biggest fish in the world, averaging between 18 and 32 feet long. Ralph and Norton, named after the Jackie Gleason and Art Carney characters from the 1950s TV show "The Honeymooners," were purchased from Taiwan, where normally they would have ended up as "tofu shark."

"The first day that our whale sharks arrived I was underwater photographing them. I watched them take their first lap [in the tank], it was incredible," said Swanagan.

The new aquarium is the first in North America to attempt to keep whale sharks in captivity. Okinawa Expo Aquarium in Japan has kept 16 whale sharks over the past 10 years. Many died young. The longest surviving whale shark at the Okinawa aquarium arrived in March 1995.

Some environmental organizations have raised objections to keeping the large animals.

"I'm not convinced that taking these animals that were from the wild and putting them into captivity for the rest of their lives is in their best interest," said Robert Adams, vice president of Born Free U.S.A., an organization that opposes the captivity of all wildlife for public display.

"When you take elephants in zoos or sharks or whales in aquaria and put them in confined places that are completely unnatural and have kids come view them you are not educating them about the species because you are giving them a completely inaccurate picture," he said.

The aquarium's whale sharks are juveniles and could grow to up to 40 feet in length.

Aquarium officials are confident their exhibit, which is about the size of a football field and holds 6 million gallons of water, will provide Ralph and Norton and the nearly 100,000 other fish also in the tank with plenty of room.

But MarineBio.org, an online volunteer organization of marine students and biologists remains skeptical.

"Although the whale sharks are relatively small now, when they reach their full size... their health will certainly be in jeopardy," said a statement given to CNN.com by MarineBio.org's Associate Director/Editor Joni Lawrence.

The statement said the organization prefers to see the animals in their natural habitats but offered support for the
aquarium opening as "a benefit to marine conservation."

For the aquarium's director, the economic and educational benefits are too good to pass up.

"The people who live inside the country tend to know the least [about aquatic sea life]. They may never have seen dolphins or sunsets over the ocean. So it's exactly the reason why an aquarium needs to be the middle of the country, to educate the citizenry," Swanagan said.