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MANATEE YOUNG HELP RESEARCH TO PRESERVE SPECIES

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Photos by Josenildo Tenório

Only five to nine months old, they already weigh between 50 and 90 kilos, and measure between 1.4 and 1.6 meters. Although they still have not been weaned, each of them is bottle-fed four and a half liters of milk daily, and is given a few leaves of lettuce and kale to nibble on.

The babies, manatee (*Trichecus manatus*) calves, belong to the same family as dugongs. Separated from their mothers, they were picked up last summer by staff from the Brazilian Center for Sirenian Conservation and Management, an institute linked to the federal environmental protection agency, Ibama.

Fortunately, fishermen in the area alerted authorities, and the institute's staff found the young MANATEES beached on sandbars near the Barra do Manguape beach, in the municipality of Rio Utinto in the Northeastern Brazilian State of Paraíba, 80 kilometers from the state capital, João Pessoa.

They now form a promising quartet for the purposes of scientific research, and have been transferred to the conservation and management center, a research station on the island of Itamaracá, 50 kilometers from Recife, the state capital of neighboring Pernambuco.

These four manatee, being raised on Itamaracá, will provide an opportunity for the center to carry out an extremely rare experiment in the area of conservation of the species. The manatees will be tagged with radio-tracking devices, so that scientists may monitor their movements via satellite.

The calves must be at least two years old in order to be hooked to the equipment. Thus, only the two eldest, Sereia and Netuno, should be back at the Barra do Mamanguape next year.

Special Care

The manatees provide scientists with a lot of information on their development, but the calves also give them quite a bit of work. They must be bottle fed four times a day - the formula includes powdered milk, rolled oats and other dietary supplements customarily fed to human babies.

Every two weeks, the two male and two female calves are weighed and measured. Five boys were hired to work at the Itamaracá station, and they see to the maintenance of

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the animals' tanks. "What I like most is giving them their bottles," said José Francisco dos Santos, the 16-year-old son of a fisherman, who used to live at Barra de Mamanguape with his family, before being transferred to Itamaracá.

Reproduction in Captivity

Beside Fort Orange, on Itamaracá, in an area leased to Ibama by the Pernambuco Tourism Commission, Empetur, the center's staff built a 10-meter-wide and 4.5-meter-deep tank. This is now open to the public. Here, people may listen to talks, watch videos, and have access to photographs and reading material on the subject.

The purpose is to make the public aware of the menace of extinction which threatens the species. "We are going to use the Itamaracá station as a base to help along the recovery of animals who get stranded on beaches," said Kláber Silva, one of the five oceanographers of the center. "We can even try breeding them in captivity," he said.

The researchers hope that Ibama will come through with funding for the radio device-tagging project. In the project, aimed at finding out more about the species, the devices are attached to the tails of the manatees, and give off signals, picked up by satellites.

"We know that the animals come in to Barra do Mamanguape in November to spend the summer," said oceanographer Eunice Maria de Oliveira, a member of the research team, "but we have no information on the migration route they take during the winter."

The team intends to map the migratory movements through signals given-off by the radio devices. Once the paths of movements of the *Trichechus Manatus* is established, the staff can develop new studies. The latter will provide a data base so that scientists and other interested parties can fight to protect the future of the species along the Brazilian coastline.

Two hundred Specimens

The Brazilian center for Sirenian Conservation and Management was officially founded by Ibama last year. This took place after ten years of research carried out in the Northeast of Brazil, through the Sirenian project, associated with the federal institute for forestry development, IBDF, now administered by Ibama.

The beginning of the whole project was a survey done in 1980 by technicians, to ascertain the number of manatees still in existence in the region. They based their study on information gathered from fishermen, who said they had seen the mammals in twelve states, in a continuous line from the state of Espírito Santo to Amapá.

The coordinator of the research project, Catuete Albuquerque, concluded that hunting had already eliminated the species in the waters of the states of Espírito Santo and Bahia. He also estimated that in the states of Sergipe and Piauí, there could not be any more than 200 specimens.

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Albuquerque, who died in a car accident in 1986, managed to travel up and down the coastline of the states of Maranhão, Pará, and Amapá. Although he did not carry out a population survey in this area, he believed that the number of manatees left there would be about the same as the number found along the coast between the states of Sergipe and Piauí.

And, as if the data on the population of these animals a decade ago were not discouraging enough, a survey carried out between February of last year and April of this year, indicates that the situation today is even worse.

Regis Pinto de Lima, another researcher at the center, travelled 2,000 kilometers to visit 206 sites from Sergipe to Piauí. He said that "the number must be lower than the 200 cited in 1980 - a manatee has not been spotted in Sergipe for seven years."

Export of Meat to Europe

Indiscriminate hunting of the manatee has occurred for the past four centuries. It all started with the Portuguese colonizers, due to the scarcity of livestock in the colony at the time, it was the manatee that supplied the domestic demand for meat. Surprisingly, there is historical evidence which attests to the fact that a large quantity of manatee meat was actually exported to Europe as well.

Robin Best, a Canadian biologist, worked at the federal institute of Amazonian research, INPA, in the seventies. In the course of his work, he collected passages from early publications telling of the slaughter of these animals.

He found, for example, a transcript done by the founding father of Brazilian independence, José Bonifácio de Andrade e Silva (1763-1838), of a manuscript written by the monarchist priest, Antonio Viera (1608-1698). It states that in about 1660, over 20 ships laden with manatee meat and fat, left Brazil heading for Europe. Best's study cites the contents of a document describing the production of 58 tons of meat, and 1,613 barrels of oil taken from 1,500 manatees, between 1776 and 1778.

This decimation did not spare the two species of sirenians, which still exist in Brazil. It is not known how many specimens of Amazonian manatees (*Trichechus Inunguis*), found exclusively in the Amazon basin, are left. Best points out that between 1935 and 1954 alone, 200,000 manatees were slaughtered in the region.

Fishnets and Pollution

Also native to the Caribbean, Central America and the Florida Peninsula, in the United States, the manatee (*Trichechus manatus*), is extremely rare today in the Brazilian Northeast.

The fishermen who go after them are also disappearing; there are hardly any animals left to kill. Danger still remains, however, for the few who have survived. The two main predators are now fishnets and pollution. Attached to the ocean floor, nets act as traps for

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the creatures - they prevent the manatees from reaching the surface to breathe, causing them to drown.

Pollution, the other culprit, is threatening their habitat, the mangroves. The main food source of the manatees is the aquatic plants found in these complex ecosystems. These water versions of cows, spend six to ten hours daily "grazing" under water.

The manatee is very docile. Biologist Eunice de Oliveira said that "it is the only female mammal which backs off and flees when her calf is attacked." They are also very slow, making them easy targets, due to size and weight. A manatee can weigh up to 600 kilos, and reach 4.5 meters in length.

The Amazonian manatee, measures up to 2.5 meters, and can weigh 250 kilos.

An additional difficulty for researchers is the lengthy reproductive cycle of the serenians. The gestation period lasts one year, and the female has only one calf at a time. Since the young are nursed until the age of two, their mothers require a period of at least three years before they mate again; a nursing manatee does not come into heat.

(box)

MANATEE

Studies on the Amazonian manatee (*Trichechus Inunguis*), began in 1974, at the INPA Aquatic Mammals laboratory. In the last 17 years, Inpa carried out 70 research projects on the *Trichechus inunguis*.

One of the most significant discoveries made by technicians at the institute, is the amazing length of time the manatees can spend under water without coming up for air. The researchers observed that in special circumstances, manatees can dive for over 15 minutes before returning to the surface to breathe.

Serenians are capable of lowering their heart beat from 40 to eight beats per minute, thereby reducing the heart's oxygen consumption. Their metabolism goes into an anaerobic phase, and the oxygen supply in the blood is used by the heart, lungs and brain.