

# Discovering the Mermaids

Thor Janson

**Appalled by the continuing decline of manatees everywhere and the hunting and killing that is the chief cause, the author started an investigation of his own on an inland lake in Guatemala where he believed he had a good chance of observing them. He hoped to build up a case for their protection that the authorities would listen to and act on. He found that the manatees were so scared of man that when they had to surface to breathe they came up in the surface vegetation, hoping to escape notice. But the high point of his watching was the day when two manatees allowed him to swim with them in the lagoon.**

Three months after Columbus discovered the New World, on January 9 1493, the ship's log recorded: 'On the previous day when the Admiral went to the Rio del Oro he saw three mermaids which rose well out of the sea . . . they were not as beautiful as they are painted though they had something of a human face.' Mariners have a history of telling tall tales, but we now know that Columbus's description was not completely without grounds. With the New World he had discovered the manatee.

The sirenians are among the most aquatically adapted of all mammals, unable to move on land, having no hind limbs. There is evidence that they evolved in North Africa from the stock that also gave rise to the elephants *Proboscidea*; genera of the Eocene Age (55-65 million years ago) have been discovered in Egypt and also in the West Indies. The presence of *Trichechus* species of manatee along the eastern and western shores of the Atlantic and their avoidance of the open sea have been cited as evidence of a continuous coastline between Africa and America.

Sirenians are the only animals on earth exhibiting 'classical pachyostosis', meaning that all their bones are hard and dense, like ivory; they are also the only existing large aquatic herbivores. At maturity they measure from eight to twelve feet and may weigh up to 1500lb. Their torpedo-shaped bodies, with very thick skin not unlike an elephant's, are sparsely covered with large hairs, about one hair per square inch. The three manatee species are the African *Trichechus senegalensis*, the Amazonian *T. inunguis*, and the West Indian *T. manatus*, and the one dugong *Dugong dugon*. The main difference between them is that the manatee's tail is rounded like a spoon, that of the dugong fluked like a whale's. The largest of the modern Sirenia was Steller's sea cow *Hydrodamalis stelleri* of the Bering Sea, which was hunted to extinction in the late 18th century.

Dugongs are listed as 'vulnerable' in the IUCN Red Data Book and depleted over their whole range from Africa to Australia; the largest groups are along the coast of north-west Australia. Manatees appear to be even more critical. The African species, along the west coast from Senegal to Angola, is 'seriously depleted throughout its range'. The West Indian species' range formerly included the coasts, rivers and lagoons from North Carolina to southern Texas, the waters of the Bahamas and Greater Antilles to the Yucatan peninsula in southern Mexico, and along the Atlantic shores of Central and South America



**ADULT FEMALE MANATEE**

to Brazil; today in North America they are essentially restricted to Florida, where a population of 600 to 1000 is being actively protected. In Latin America, where the Amazonian species has been aggressively hunted for its much prized meat and oil, the result of intensive commercial exploitation is that it is 'in real danger of extinction'. Once to be seen in hundreds and even thousands, manatees are now only found in isolated enclaves along American coasts.

In 1976, with all these considerations in mind, I decided to start a manatee research project in Guatemala, which I chose because it is the only place where manatees live in an inland lake, and it seemed that Lake Izabal and the Rio Dulce, which connects it with the Atlantic, might prove both an ideal setting for observations and a good place for a refuge to be developed. Starting in November that year, I aimed to get data on population size, distribution, and general ecology of the Guatemalan manatees which could be used to design conservation and management programmes. I also hoped to get useful information on behaviour and physiology, for besides being rare, manatees are also among the least understood by scientists.

Before the Spanish Conquest the manatee was well known by the Mayan Indians of Guatemala. They had a high regard for 'tek' both because of its fine meat and for the supernatural powers the animal was believed to possess. The earbone of a manatee was especially prized; hung around the neck by a cord, it was believed to protect its owner from all evil powers. The Maya had a special process to prepare dried manatee meat, called 'bucan', which was eaten at important feasts and thought to increase a man's strength and virility.

The Spanish explorers found the mermaids, which were then abundant in Guatemala, a welcome source of food. In *'Recordation Florida'*, published in 1700, the famous explorer Fuentes y Guzman wrote, 'Not only in Lake Izabal and the Rio Dulce, but along the entire coast from Mexico to Nicaragua they are caught in huge quantities during the whole year'. Freebooters and pirates who preyed upon the Spanish ships often anchored along the Guatemalan coast and began to rely upon 'bucan' as a staple in their diet, for which they became known as bucaniers. Inevitably, large-scale 'bucan' exploitation followed.

The first signs of concern over the declining manatee population appear in an article written in 1882 for a massive encyclopaedia, the *Biologia Centrali Americana*. The author describes Lake Izabal as a primary reservoir of the manatee, but also expresses doubts about their survival, the herds being greatly reduced by hunting. In the late 1930s the biologist C.M. Barber on a Field Museum expedition to Guatemala spent several weeks on Lake Izabal collecting manatee specimens to send back to Chicago. He describes seeing 'large herds' which they were able to approach in dug-out canoes manned by Indian guides. But often days would pass when not one sirenian could be found. Barber observed, 'It will be interesting to hear the facts someday from some competent field naturalist who is not too busy accumulating specimens so that he may spend the necessary time (to study the habits of the manatee). Let us hope that the manatee is not extinct before that day comes.'

By this time the decline had become obvious. Manatees had all but disappeared along much of the Mexican and Central American coast, and had even begun to alter their behaviour patterns to help them elude their human predators. Their only defence against hunters was to become 'invisible', and in 1935 O.W. Barrett, in an interesting paper on the manatees of the Indio River

of southern Nicaragua, found them to be 'largely nocturnal' and particularly furtive, 'seldom being found in groups'. No longer would herds of manatee be seen grazing lazily, surfacing at frequent intervals 'like dolphins'. Hunters now had to stalk the animals, and great skill was required simply to find them. The slightest 'tap' on a hunter's canoe would sound the alarm to a manatee even hundreds of yards away. Hunters came to Lake Izabal from as far away as Honduras hoping to return home with a cargo of fresh manatee meat, and self-styled romantics from the far-off capitals of the civilised world flooded into Guatemala hoping to bag some big game and prove their manliness.

Throughout Latin America industrialisation is progressing at a break-neck speed, and Guatemala is no exception. The International Nickel Corporation of Canada has recently completed a \$250 million refinery on the north-west shore of Lake Izabal, described as 'the largest industrial development in Central America'. Until very recently the western end of Lake Izabal was the manatees' preferred habitat. Here two large rivers, Rio Polochic and Rio Oscuro, empty into the lake, and heavy silting and the frequent inundation of land nearby has created a lush swamp with innumerable small canals, not unlike the Florida Everglades, where, among profuse growths of grasses and water lilies, the remaining manatees sought refuge. For many years this was considered the only good place to hunt manatees in the entire region. Now it is well known that the 'vaca marinas', the sea cows, have departed, 'frightened away by all the noise of the refinery', say the fishermen.

For my field research I found encouragement at San Carlos University, where I was invited to join the faculty of the School of Biology as an associated investigator. Concerned agencies and individuals in Guatemala provided me with a small boat and motor and dugout canoe.

### Field Notes

The best area for observing the manatees, and where they were most numerous, proved to be in the lagoons and waterways along the northern edge of El Golfete, which is a widening of the Rio Dulce. But they have developed several patterns of behaviour to achieve near-invisibility. Manatees can stay under water for over 15 minutes. If they suspect the presence of humans they surface as little as possible, and when they do come up it is often in the middle of a raft of floating water plants or among the reeds, thus remaining effectively concealed. The following excerpt from my field notes describes this:

April 1, 1977, 5.00 a.m. As I watched, totally captivated, five forms slowly entered the lagoon. I was not seeing actual bodies but fairly regular patterns of bubbles, three large arrays and two small ones. The formation entered very slowly and the fairly constant flow of bubbles gave the group the appearance of symmetry. The group reached the middle of the lagoon and paused, the larger bubbles in the lead followed at a distance by the smaller ones. Then nothing happened for two or three minutes and I lost track of their position. Then at the other side of the lagoon I saw one large nose come above the surface of the water. Manatee! I watched them for more than half an hour. The small animals, infants or juveniles, surfaced for air more often than the adults and remained on the surface for a longer time. I observed behaviour that I could only describe as play. Nudging, bumping, and tail nipping. This play was always between the two small ones or between the young and the adults. It was always the young inciting the play. They were very quiet. The only sounds I was able to hear were those made during their normal respiration and sometimes a splash. At about 5.45 the family (?) swam out of the lagoon, as slowly and peacefully as they had come.

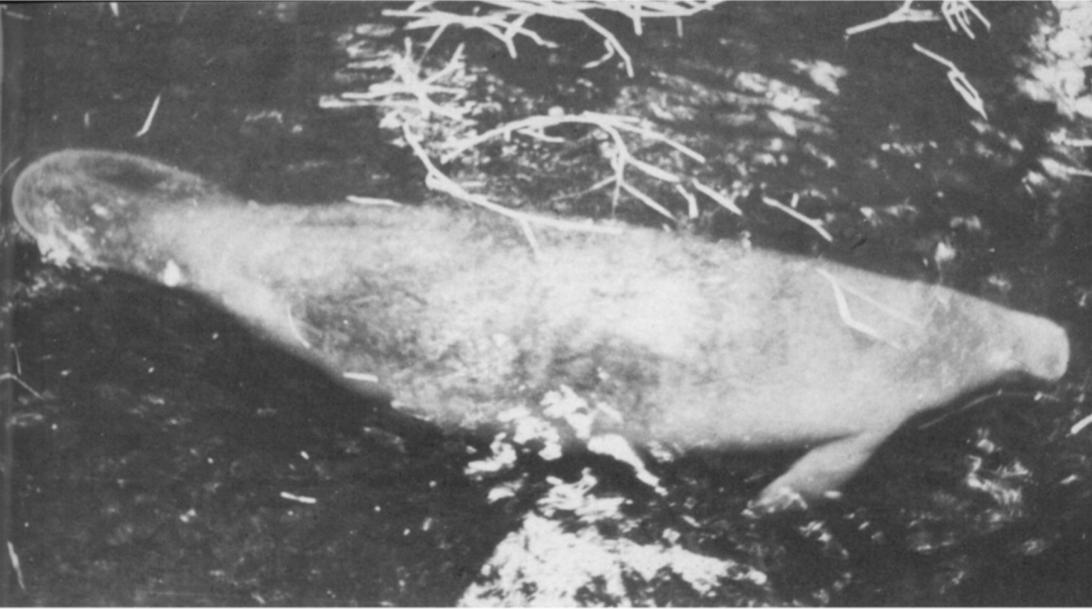
As part of my campaign in Guatemala I began to use every possible channel to make the public aware of the plight of the manatee – newspaper articles, radio programmes, and materials for the public schools – and contact with government agencies in order to explain the value of preserving this rare mammal, which could be economically valuable in Guatemala and effective in the control of aquatic vegetation, now a serious problem in Guatemala, like many other tropical zones. The ‘English Channel’ near Puerto Barrios, which shortens the sea routes from Honduras and other trading centres to Puerto Barrios, was navigable until a few years ago. Now it is so choked by weeds that only the smallest dugout can pass through, forcing ships to make the much longer trip around Cape Graciosa. Manatees, once common, are no longer there; if they could be restored they would probably take care of the weed problem. The Government is designing a ‘Master Plan for Tourist Development of Lake Izabal and the Rio Dulce’, and I have impressed on them that tourists, especially from North America and Europe, are much interested in wildlife. At present it looks as though a guarded refuge for the manatee will be made at El Golfete.

It is important that a scientist studying animals should not anthropomorphise their behaviour. At the same time the observer must remain sensitive to the creature being observed; an animal is not a machine. I had felt for some time that manatees would probably be friendly to humans if they were not constantly persecuted, that, through our greed and insensitivity, we have cut ourselves off from our natural friends.

November 7, 1977, 10.00 pm. This evening, as I was sitting silently in my little boat observing the surroundings, several manatees entered the small lagoon. I knew their presence by the characteristic formation of bubbles and even a few moments of protruding nose. It was almost dusk and observing any activity below the surface of the water was impossible. I watched their bubbles until the darkness of night overtook us. The only sound was the distant roar of some howler monkeys.

But next morning I was given a most unusual experience. For unknown reasons the normal barriers that had grown between man and manatee were to fall. A special state of rapport or sympathy replaced conditioned fears and a for a few hours we engaged in authentic interaction.

November 8, 1977. Upon awakening the next morning I looked over the side of my boat and saw evidence of two manatees grazing on the other side of the lagoon. Then one head broke the surface and looked over in my direction. During the morning the two gradually edged closer and closer to the boat. One was a juvenile male about six feet long, the other, an adult female, measured about 11 feet. Both seemed unusually fat. As I watched them I felt an unusually strong and persistent attraction towards them, a feeling I was not familiar with. I had the strongest, though unexplainable, impression that they were trying to communicate with me. I lowered my hand and lightly splashed the water. To my extreme surprise, the adult manatee, seeing this, came right up to the side of the boat and lifted her head above the water. I slowly lowered my hand until it was within an inch of her nose. In a quick movement she pushed her nose upward, nudging my hand, and disappeared back into the water. I could hardly believe this had happened. I felt a mild tingling sensation from head to feet. I put my hand back into the water and within a few seconds I found myself stroking a big, soft, manatee nose. She would stay for a few moments and then go away, only to return again in a minute or two. This went on for quite some time until I decided to see what would happen if I entered the water. I could not have been better received. The huge, but graceful, sirenium swam over to me and brushed up against



JUVENILE at El Golfete.

my body. I rubbed her back. This she seemed to like very much. We swam together around the lagoon. I had begun to wonder what had become of the young male when I happened to notice him following us at some distance. Eventually he too came over and allowed physical contact. This interspecies meeting continued for most of the day and the young manatee became increasingly playful. He would allow me to come just within reach of him and then would rocket away at full speed (which for a young manatee is about 12-15 mph). At other times he would allow me to put my arms around the middle of his body and we would swim together. Unexpectedly, in a quick, jack-knifing movement, he would throw me off and swim around in circles. The older female was not interested in this sort of play, preferring to solicit my scratching and rubbing. Near dark, after grazing for a time on some tender grass along the bank, my new friends swam over to me. I realized that they were about to leave. I can only say that I feel that a bond of love existed between us. I watched from the middle of the lagoon as they swam out of sight. I felt that this had been one of the most joyful days in my life.

I have not seen my manatee friends again, and I am filled with sadness when I remember that I may have very little time with these animals before they are killed.

The plight of the manatees is only a single example of a trend which is affecting almost all wildlife throughout the world. The extermination of a species is not reversible. The thousands and thousands of plants and animals which exist in the wilderness are being rapidly replaced with a small number of domesticated species which, for the most part, can be considered dependent upon man to ensure their survival. A basic principal of ecology is that biological diversity equals biological stability. By destroying the natural diversity of the wilderness we are inviting what has been termed an 'ecological backlash'. This would be nature's way of re-establishing its equilibrium. It is up to us to do what we can to preserve the wilderness, in our homelands, and the whole earth.

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*Since writing this article the author reports that the Guatemala Government is giving \$20,000 to make a refuge for the manatee on the Rio Dolce.*