

# **The Endangered Manatee**

**A Formal Research Report  
For the General Reader**



**Submitted By:  
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June 12, 2002**

# Letter of Transmittal

June 11, 2002

TO: Marilyn Connor

FROM: Yvonne Perry

RE: Formal Research Report Topic

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The protection of endangered species brings with it a battle between two groups - one interested in saving the lives of the endangered animals, and one protesting the preservation laws. This Problem-Solution Formal Research Report will give information about endangered animals, and present the viewpoints of both the preservationists and those who oppose them. I will attempt to answer the following questions:

- What is an "endangered" specie?
- What is a manatee?
- Why protect the manatees?
- What laws protect manatees and their habitats?
- Who is opposing the preservation laws?
- Are preservation laws violating the rights of humans?

Animal protection is a vast and controversial issue. In this paper, I will limit my exploration to the state of Florida regarding the rights of sea mammals called manatees, and the rights of boaters affected by the laws protecting the manatees.

I plan to submit my Formal Research Report with all required prefatory, main, and supplementary elements no later than midnight, Wednesday, June 12, 2002.

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## Introductory Summary

This Formal Research Report provides an in-depth look at the plight of the Manatees of Florida, and how society is responding to protect and preserve this endangered mammal. In an age when many people are advocating the protection and salvation of endangered species, we still have groups of persons who are opposed to the laws that have been established to protect the manatees.

Every creature on earth has a vital role in the ecosystem, and contributes to the well being of our planet. Consider helping our environment by:

- Avoiding restricted or protected manatee areas
- Never touching or feeding a manatee
- Reporting tagged manatee to authorities
- Reporting abuse

It takes money, compassion, and a willingness to sacrifice human conveniences to protect and keep endangered species alive. By obeying the protective laws and by donating time and money into this worthy cause, the manatee will survive, and future generations will continue to enjoy interaction with these gentle, affectionate, and harmless sea creatures.

## The Endangered Manatee

Until the early 1970's, environmental awareness levels were very low and humans were doing little to avert the disastrous damage being done to the environment in the name of progress. Today, with the help of concerned citizens, who formed groups and coalitions to increase awareness and interest, many species of plants and animals that would have become extinct are now being saved and re-populated. Protection of endangered species is vital to the continued existence of harmony in our environment. There is something every human can do to insure that our planet continues to thrive. The process begins with the help of citizens, but must be enforced by federal, state, and local laws.

## What is an "Endangered" Specie?

An endangered specie is any plant or animal that is in danger of extinction (dying off). Presently as many as 34,000 plant species and 5,200 animal species around the world are in danger of extinction. Evolution of species accounts for a normal process in extinction, (natural predators and climate changes that the specie cannot adapt to), but most causes of specie extinction are from habitat destruction, pollution, increases in human population, resource consumption, and urban development.

A plant or animal must be identified by a criteria put forth by the Endangered specie act of 1973. Before they can be identified, thousands of species become extinct each year.

*The current global extinction rate is estimated at about 20,000 species per year, exponentially greater than the background extinction rate. Many biologists believe that we are in the middle of the greatest mass extinction episode since the disappearance of the dinosaurs 65 million years ago. (Encarta msn.com)*

The extinction of one or more species may affect the ecosystem and cause irreversibly damage. For example, when sea otters near the northern Pacific Rim were hunted almost to extinction in the 19<sup>th</sup> and early 20<sup>th</sup> centuries, sea urchin no longer had a major predator. This caused the sea urchin population to increase drastically. Once the sea urchins ate the kelp and other seaweeds, the rich underwater ecosystem became barren. When the U.S Marine Mammal Act of 1972 set forth protective laws, sea otters were reintroduced to the area. The kelp and seaweed forests were restored.

Humans depend upon the ecosystems to provide food, water, and clean air, as well as many medicines and products that are provided by biodiversity. It is imperative that we protect and save the lives of endangered plants and animals.

## What is a Manatee?



**Figure 1: Manatee surfacing for air**  
**Source: [www.savethemanatee.org](http://www.savethemanatee.org)**



**Figure 2: An Adult Manatee with calf**  
**Source: [www.savethemanatee.org](http://www.savethemanatee.org)**

Belonging to the Sirenia order of mammalians, manatees are the common name for a large, gray or black air breathing water mammal (see Figure 1). Sometimes called a sea cow, the manatee looks somewhat like a hippopotamus. Adult manatees have large bodies averaging 10 feet in length and weighing between 440 and 1300 pounds. Manatees have a small head with a straight snout having a bristly moustache on the upper lip. Paddle-like forelimbs are used to move through the water (see Figure 2).

Manatees live in fresh, brackish, or salt water and roam with small herds somewhat like a family. Six to eight hours a day is spent grazing upon seaweed and other marine plants. Their slow metabolism reduces the energy requirements, thus they move slowly through the water. Because of their size, manatees have few natural enemies. Humans are the primary threat to the health and safety of the manatees.

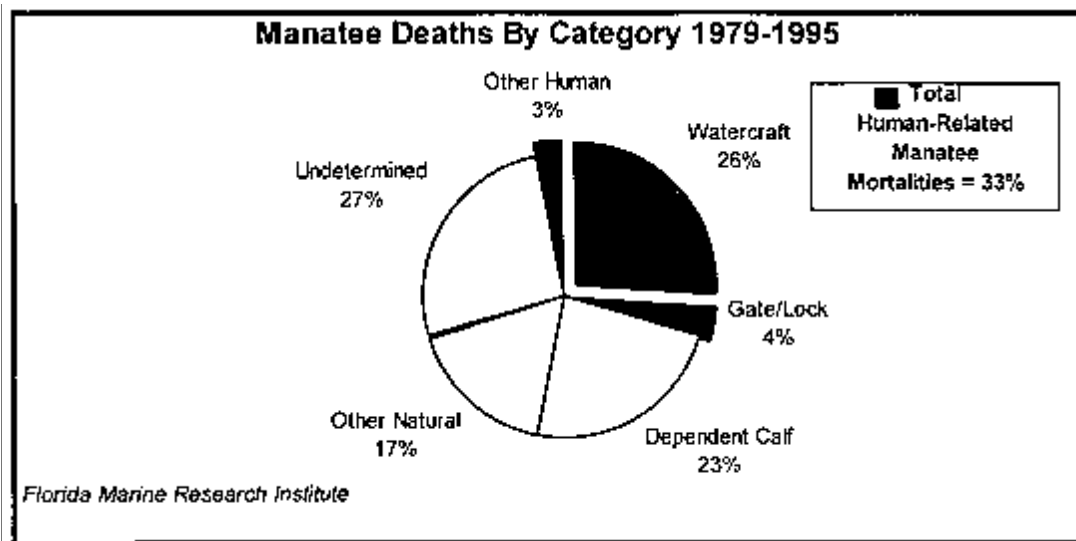
After a 12-month gestation period, the female manatee may give birth to a single, pink calf about once every three years. A mother may nurse her calf from her teats located under her pectoral flippers.

## Why Protect the Manatees?

Typically manatees are found in the tropical and subtropical waters of North and South America and Africa, and are not native to the coasts of Florida. The Florida manatees are sub-species of the West Indian manatee brought to the coasts of Florida in the 1700's. Then called seacows, they were kept in netted warm water corrals and raised as a food source (Freece). When these mammals were released, many died from water temperatures that were too cool, and from boating collisions.

Manatees are herbivores, and eat a variety of 60 or more sea grasses and plants. Conservation efforts are supported by the fact that manatees clear plant-clogged river channels used for irrigation and transportation. Therefore, manatees are protected by local and national legislation in every coastal county in Florida. The State strictly enforces speed restrictions in manatee habitats to protect the rare sea mammals from boating collisions. Still 26% of manatee deaths are caused by collisions with watercrafts. (see Chart 1).

According to Save the Manatee Club, Manatees are currently facing total extinction. In 1996 almost 20% of the world's entire manatee population died. Without intervention, the animal faces a high risk of extinction in the wild in ten or more years (The World Conservation Union, IUCN).

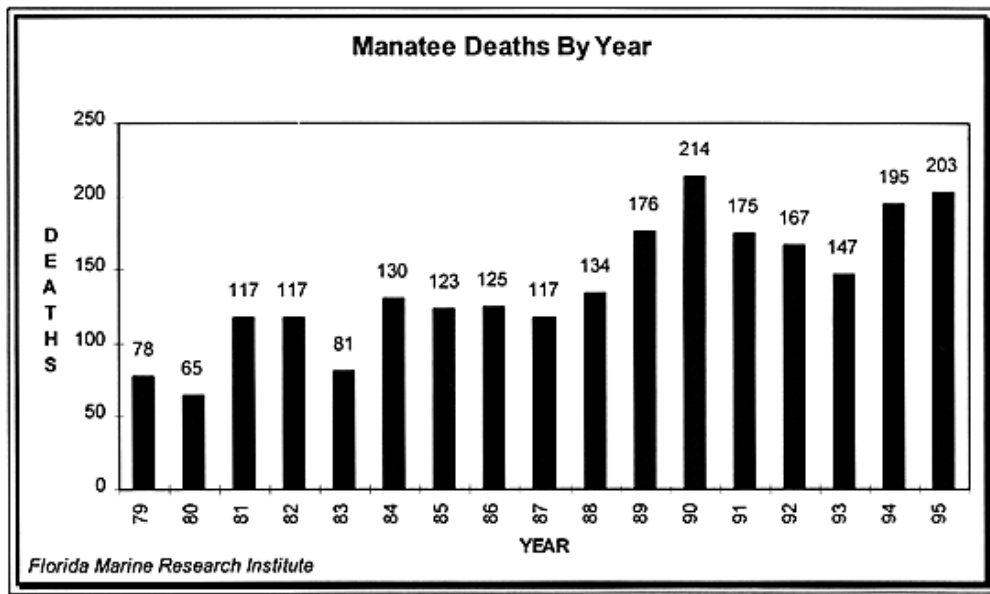


**Chart 1: Manatee Deaths by Category 1979- 1995**  
 Source: [www.hsswp.com](http://www.hsswp.com)

Other causes of manatee death are:

- Poaching for hides, meat, and blubber oil (one specie of manatee, Steller's sea cow, became extinct in 1768 as a result of over hunting)
- Natural causes such as cold water temperatures, stress, red tide, disease, calving difficulties.
- Entanglement in Flood Gate or Canal Lock
- Habitat destruction
- Human related deaths caused from fishing line, litter, vandalism, culverts and other man-made structures
- Undetermined causes in which the carcass was too badly decomposed, or those reported and verified but not recoverable

### *Manatee Deaths By Year*



**Chart 2: Total Number of U.S. Verified Manatee Deaths (including Puerto Rico) Per Year from 1979 to 1995**  
**Source: Homosassa Springs Park**

Jim Waymer reports that according to Florida government endangered manatees are dying at the rate of one per day. Marine patrol officer, Dennis Harrah, estimated in June 2000 that only 2,200 remained alive in Florida waters. Harrah has watched for 24 years as the manatees drift toward extinction (see chart 2).

*"I've probably picked up hundreds of dead ones since I've been here," (see Figure 3) said Harrah (Floridatoday.com).*



**Figure 3: Above, a dead manatee found in Banana River;  
Below, injured manatees get treatment from Miami Seaquarium  
veterinarians  
Source: [www.Floridatoday.com](http://www.Floridatoday.com)**

The main causes of manatee death are human-related. Table 1 (next page) explains the types of danger, their affects, and what individuals can do to help protect and preserve manatees and their habitats. If we all do our part to take care of our environment, everyone benefits, including the manatees.

**Table 1:  
Human  
Related  
Mortality of  
Manatees**

<b>Human Related Mortality of Manatees</b>			
<b>Type of Danger</b>	<b>Explanation</b>	<b>Affect</b>	<b>How to help</b>
<b>Harassment</b>	Harassment refers to pursuing, chasing, poking, prodding, grabbing, riding, and feeding manatees or giving them water from a hose. This conditions them to take food or water from people. Some people may use this opportunity to feed them dangerous non-food items or harm the manatee in some way.	Harassment by boaters, divers, swimmers, and people fishing can force manatees to leave preferred habitat such as warm water refuges. Harassment can also lead to separation of mother and calf.	Save the Manatee® Club supports passive observation (observing from a distance) as the only way to interact with manatees and all wildlife.
<b>Litter</b>	Entanglement in or ingestion of monofilament line / litter, carelessly left floating with aquatic plants have caused manatee injuries and even death. Crab trap lines and hoop nets used by commercial fishermen can also cause entanglement problems for manatees.	Debris in waterways, such as discarded fishing line and hooks, plastic 6-pack holders, plastic bags, etc., are dangerous to manatees and other forms of wildlife.	Never throw plastic items into waterways
<b>Loss of Habitat</b>	Florida, is experiencing unprecedented growth in population and tourism. Florida's ecosystems are more at risk than any other state in the U.S. because of development pressure. Oil exploration and possible oil spills are potential threats to all marine and estuarine habitats, but household waste is just as threatening.	The growth in human population with its added pollution, litter, and boat traffic, has degraded and / or eliminated manatee habitat.	Use caution and consideration when near manatee habitats. Dispose of waste properly.
<b>Pollution</b>	Many fresh water and marine grassbeds have been lost due to water pollution, herbicides, surface runoff, propeller dredging, and dredge and fill projects.	There are very few places left where manatees are free from danger, stress, and harassment posed by human activity.	Use biodegradable detergents; avoid using pesticides, herbicides, etc. Report storm water runoff and chemicals from industries.
<b>Watercraft Collision</b>	Florida manatees swim very slowly which makes them vulnerable to boat hits. Additionally, manatees' need to surface for air, and preference to shallow water and frequently there isn't sufficient depth to dive deeper to avoid collision.	In the case of large power vessels and barges moving through shallow waters, the manatee may be caught between the vessel and the water bottom, or the vessel and docking structure, and crushed.	Observe all boating speed limits. Avoid boating in manatee habitats.

## What Laws Protect Manatees And Their Habitats?

Federal, state, and county laws have been established to protect endangered plants and animals. Perhaps the most important federal wildlife law is the Endangered Species Act of 1973. This Act states that it is illegal to hunt, kill, collect, harass, harm, pursue, shoot, trap, capture, or wound any member of a group of endangered species or to tamper with their habitat. More specific to the marine animals is the Manatee Mammal Protection Act of 1972, which provides federal protection for all marine mammals, especially manatees. The Manatee Mammal Protection Act of 1972 also sets restrictions on products that are derived from these animals and is punishable with fines up to \$100,000 and/or one year in prison for those caught violating the law (It's the Law).

Within the state of Florida the Florida Manatee Sanctuary Act of 1978 protects the manatees from molestation, harassment, annoyance, or disturbance. Those convicted of violating Florida's law, faces a maximum fine of \$1,000 and/or one year in prison.

On July 21, 1992, Florida Governor and the Cabinet adopted the Manatee Protection Plan for Indian River County (Florida Law Section 62N-22.007 F.A.C.). The law instituted a number of boat speed regulatory zones to be enforced by several law enforcement agencies including Florida Marine Patrol. The zones are marked by signage that provides information regarding the beginning of the zone, the speed definitions, (see table 2 and Figure 4) the area of the regulation, and the end point of the zone. The Florida Inland Navigation District is responsible for posting and maintaining regulatory markers, and publishes brochures to educate boaters about the protection zones. Such brochures should be used to insure that the markers are understood. Fines for speeding in a manatee protection zone is \$500.00 and/or 6 months in jail.



Figure 4: Actual Signage Posted  
Source: [www.hsswp.com](http://www.hsswp.com)

**Table 2: Definition of Speed Zone Signs**  
 Source: [www.aicw.org](http://www.aicw.org)

<b>Speed Zone/Sign</b>	<b>Definition of Speed Zone/Sign</b>
<b>Idle Speed, No Wake</b>	Operate at idle speed, or the minimum speed that will maintain steerage of the watercraft.
<b>Slow Speed, Minimum Wake</b>	Proceed at slow speed, making little or no wake (wave) in the water. Be aware of possible manatee and use due care
<b>30 MPH Maximum Speed</b>	This is a reminder to safely navigate at a maximum speed of 30 MPH, so as not to produce an excessive wake and to keep the bow of the boat low so as not to restrict visibility.
<b>Entering Manatee Zone ICW Exempt Slow Speed Out of ICW</b>	Marks the beginning of a regulated zone where the channel is exempt
<b>Manatee Zone 25 MPH in ICW to Next Bridge</b>	Marks a regulated channel area and stating how far the regulation extends
<b>Manatee Zone Slow Speed Channel Included November 15 to March 31 (see Figure 4)</b>	Marks a seasonally regulated zone with the channel included
<b>Manatee Zone Slow Speed 50' From Shore Next 5 miles</b>	Marks a slow speed zone along the shore line
<b>Leaving Manatee Zone Resume Safe Normal operation (see figure 4)</b>	Marks the end of a regulated zone

## Who Is Opposing The Preservation Laws?

Florida boater and property rights advocates are the main groups opposing manatee zones, especially in Brevard County, which happens to be the hub of the East Coast manatee population. All manatees habituating on the East

Coast of Florida use Brevard County's waterways at some time during the year. Brevard County also has the highest manatee mortalities of all Florida counties. From 1974 through 2001, there have been 191 boating related manatee mortalities in Brevard County.

Save the Manatee Club (SMC) and a coalition of 18 environmental and animal protection groups were upset that the Florida Wildlife Conservation Commission (FWCC) was not enforcing existing laws established to protect manatees. In an effort to reduce the number of manatee mortalities in Brevard County these groups filed suit against FWCC in January 2000. A settlement between SMC and coalition members and FWCC was reached in April 2001. The settlement would create new and stronger manatee protection laws in Florida, especially in Brevard County. The FWCC held public hearings in May 2001 on the proposed manatee protection laws and the changes were authorized.

However, on May 31<sup>st</sup> individual boaters, boating rights organization Standing Watch (an organization of recreational and commercial boaters and their supporter), Sea Ray Boats, Inc., and the cities of Titusville and Cocoa Beach legally challenged the rule. Vice president of Standing Watch and president of Citizens for Florida's Waterways, Ron Pritchard, didn't feel that the zone were necessary because population is growing. "The majority of manatees in the vicinity of the canal are killed by boats other than family boating," Pritchard said. "The barge and tugboat combination is responsible for over 60 percent of the manatee mortalities" (qtd. in Florida Today). He and the other challengers hoped to prove that slower speed zones are dangerous and actually cause manatee collision. He proposed that manatees cannot hear slow-moving boats and therefore, could not get out of the way of approaching watercrafts.

When the boaters challenged the ruling, preservationist groups such as Save the Manatee Club and the Florida Wildlife Federation, represented by Earthjustice Legal Defense Fund, and Florida Power and Light Company, supported the Florida Wildlife Conservation Commission.

Ruling Judge Fred Buckine who ordered that the zones were necessary and that none of the claims brought by a rule challenge had any validity overturned the challenge issued by boaters. Buckine ruled that the evidence offered by the boaters was inconclusive and undocumented. He noted that there is no scientific evidence to support the theory that manatees cannot hear slow-moving boats. Additionally, the judge concluded that the evidence presented by the preservationist groups were based on scientific facts, valid logic, and experience and seeks to prevent harm and death to manatees resulting from motorboats.

## Are preservation laws violating the rights of humans?

Hundreds of boaters protested the judge's ruling and the new manatee slow-speed ruling by sounding their horns (a form of manatee harassment) while cruising through the Barge Canal which provides access from Merritt Island to the Banana River and the Indian River Lagoon. These boaters felt that the new laws were jeopardizing their safety and violating their rights without actually protecting the manatees. However, the boaters interviewed in the Barge Canal stated reasons for their protests:

- Having to put on life vests
- It's hot in a boat when you have to go slow
- Worries of how the zones will be enforced during thunderstorms when rushing in from dangerous conditions.

Under federal law, boaters can go as fast as necessary through federal slow zones to escape storms and protect passengers. Therefore, the reasons given by the boaters to substantiate their claim that the laws were violating their safety or human rights appears to be nothing more than a matter of convenience. Law enforcement has issued 67 citations and 37 warnings for boaters who ignored the manatee zones in Brevard County during the challenge period. Of those numbers, 42 of the citations and 27 of the warnings were issued to county residents who were aware of where the speed zones are located.

Manley Fuller, president of the Florida Wildlife Federation, sums up the final result of the ruling, "The result of this decision is that people can continue to enjoy Brevard County's waterways for boating and fishing, but in some areas they will need to operate their vessel more carefully near the shoreline, which will help both manatees and fishing." (qtd. in Manatees Win Big)

## Summary

Every creature on earth has a vital role in the ecosystem, and contributes to the well being of our planet. Awareness prompts a society to be concerned and to respond to protection and preservation efforts for this and all endangered plants and animals. By educating the public people will begin to care for the environment and thus save the manatee. A change in attitude and conduct will ensure that these gentle, affectionate, and harmless sea creatures manatees are around for our children and future generations to enjoy. For more information on how you can help, please see the website [www.savethemanatee.org/action.htm](http://www.savethemanatee.org/action.htm)

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