

# *“Way of the Manatee” Treasure Box Program Report 2000-2004*



Florida Fish and Wildlife Conservation Commission  
Division of Habitat and Species Conservation  
Imperiled Species Management Section  
Manatee Program - Education and Information



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## Introduction



The creation of the “Way of the Manatee” Treasure Box program was in response to the disproportionate assignment of manatee education awareness opportunities in the Florida Panhandle. Specifically, only those schools with students whose parents worked in the manatee program knew that there were educators or biologists available to teach students about manatees. It did not seem fair to the other schools or to the students who would never learn about this endangered species, its habitat or the impacts to its environment from knowledgeable staff. Staff decided that if this outreach program proved successful in the North Florida area then every effort would be made to expand the program to other areas around the state with similar inadequacies in manatee awareness opportunities.

As Florida expanded its Florida Comprehensive Assessment Tests (FCAT) and mandated the use of Sunshine State Standards (SSS) for students, the development of the treasure boxes materialized. Here was a way to introduce students to manatees and to incorporate various environmental standards teachers needed to teach and students needed to practice for their FCAT writing and math exercises.

Prior to the development of this program, contact with schools was limited to a few attempts during the year to “throw something together” for a brief encounter in the classroom. Too much emphasis was put on slide show or power point presentations, which usually took several hours for staff to create. As a result, students were not usually prepared to listen to a “talking head.” Depending on the presenter’s interest or time, the interaction was mostly question and answer with very little participation on the part of the students. While this format may have met a SSS strand requirement, it did little to excite the students about learning more about manatees.

The development of the treasure boxes changed all of that. Students and teachers enjoyed the use of the boxes and were able to embrace the manatee while learning about its uniqueness and the impacts to its environment. Program staff was treated to classrooms full of student-created manatee facts, stories, artwork, skits, dances and songs. The presentation evolved to a true question and answer session with full participation and statements by the students, which reinforced what they had learned from the use of the boxes.

## *“Way of the Manatee” Treasure Box Program*

The program took two years to develop and has been in use for the past three years at schools in Leon County and surrounding counties. This report introduces the reader to the development, evaluation and improvement of the “Way of the Manatee” Treasure Box program. Comments from teachers are included in the annual review sections as testimonials to the success of this manatee awareness/education resource.

### **What is Environmental Education?**



For years, various groups have heralded the promotion of environmental education in the classroom as a way to help students understand and embrace the needs of the environment. It is believed that environmental programs taught during the developmental years of a child’s life provides the background needed for future beliefs and practices. Early interest in the protection and sustainability of natural resources and the existence of space and place and how things are made up is what education is all about. Presenting core subjects -- Math, Science, English -- in a way that excites the learning abilities of children further enhances their grasp of the material being taught.

*“While science -- biology, geology, physics, etc. -- is incredibly valuable to our culture and civilization, what is more important is an understanding of how to use them. Therein lies the value of environmental education, a slow, sea-change phenomenon of shifting values and perceptions. As Jack Hilt writes in Harper’s (July 2003) about an ecological mindset, ‘new paradigms do not take over in a generation, or even half a dozen of them... [but] any shift will begin with kids in school, and already has.’ Environmental education is the long term investment; it is the systemic fix; it is the changing conscience of our culture.” (Everitt, 2003)*

During the 1970s, environmental education started to appear through the introduction of environmental centers, ecology clubs, litter clean up campaigns, Project Learning Tree, and marketing messages such as the infamous “crying Indian” who touched so many of our lives. Sidney Marland, then the U.S. Commission of Education, “suggested that environmental education could become the key to true interdisciplinary education, because it started with humanity and moved into every area of life.” “In short, environmental education is about

### **Environmental Education & Training Partnership - EETAP**

On-line resources for advancing education through environmental literacy

[www.eetap.org](http://www.eetap.org)

[www.plt.org](http://www.plt.org)

[www.projectwet.org](http://www.projectwet.org)

[www.worldwildlife.org](http://www.worldwildlife.org)

[www.naaee.org](http://www.naaee.org)

[eelink.net](http://eelink.net)

[www.epa.gov/enviroed/resources.html](http://www.epa.gov/enviroed/resources.html)

**Visit us at [www.MyFWC.com](http://www.MyFWC.com)**

everywhere and everything. As such, its concerns are relevant to and must become an integral part of every academic subject taught from kindergarten through graduate school.” (Quoted in Roberts, 2003)

The most important thing about environmental education is its ability to give students a sense of place. They learn that what they do affects their environment either in a positive or negative way. Fieldwork allows for exploration and sensitivity and hands-on learning in the classroom involves students so that they are not just sitting and listening.

The “Way of the Manatee” Treasure Box program provides teachers with the tools to encourage students to learn in a variety of ways. Hands-on materials provide students with opportunities to learn about their environment in an enjoyable format and in a way that they learn best. As a result, both teachers and students benefit from this resource.



### **Development of Program**

During the winter of 2000, the Florida Fish and Wildlife Conservation Commission’s Bureau of Protected Species Management started the development of a manatee outreach/education program for schools and communities in the Big Bend area of Florida. The impetus of this idea came from the need for more manatee awareness and environmental education opportunities in this area of the state. Previous instruction about manatees was limited to only a few local schools for very brief times, with nothing available on a regular basis. The outreach effort was designed to provide information and materials to any and all educational facilities, which included both public and private entities.

To start off, staff gathered a variety of existing environmental materials from various state agencies and environmental groups and then met with the Leon County School District office to obtain approval for some of the materials selected for the boxes (videos, tapes, etc.) In addition, staff reviewed the Sunshine State Standards (SSS) and selected the strands that the program would cover. Information and materials were purchased from a variety of sources (see attachments) and a library and inventory lists were established. After the target ages for the program were determined, staff

created or updated lesson plans and activities that met the requirements of the SSS for the Pre-K to 5<sup>th</sup> grade audiences. Seven treasure boxes were created to cover each grade level, which included age/grade appropriate materials. The program was named, “Way of the Manatee.” Staff then set out to market the program to area schools and centers through a variety of channels. The trial and error attempts and the persistence of staff for promoting and improving this program has helped its evolution into a successful classroom experience for both students and teachers in the Big Bend area.

### **Curriculum Development**

The basic lesson plans for the program were a revised version of a program designed by FWC staff as well as a set of lesson plans from the Hillsborough County School District, which were updated with current information. The plans were previously used at a Leon County Teacher Workshop.

Staff sorted the lesson plans into a week of activities to teach about the Florida Manatee. The plans are specific to each elementary grade level and fall under the learning standards of the state of Florida. Plans cover the subjects of math, science, social studies, art, music, drama, reading, writing and physical activity. One of the most beneficial things about the treasure box is that it gives the teacher the flexibility to introduce lessons to their students at appropriate times for the subject they are teaching. Following a common theme throughout the lessons reinforces the students’ grasp of concepts.

Numerous books about manatees, including reference books, were reviewed, purchased, and included in the appropriate grade level box. Staff chose books that upheld the overall views of the Fish and Wildlife Conservation Commission’s mission to protect the endangered manatee. In addition, books about the hyrax, elephant, marine mammals and mermaids were obtained to help students understand the relationship and references mentioned in most manatee educational materials.

Other items included in the boxes: coloring and activity books, puppets, art projects, puzzles, plastic manatees, litter, life jackets, videos, hats, sunglasses, costumes, music, full-sized manatee and calf cloth cutouts, posters, CDs, tapes, maps, etc. ... something tangible and fun related to manatees that would help



Students watching wildlife

## Evaluations 2001-2002

1. "The Program is fine -- it just needs to be sent to schools when teachers request it (instead of being told when it would arrive) Fourth Grade teachers couldn't use it due to test preparation. No time." Science teacher, Chaires Elementary, Leon County, Florida.

*FWC Staff remedied this during the next school year with phone and e-mail communication. The other realization was that for certain grades we could expect a decrease in use during certain times of the year due to the FCAT.*

2. "All of the activities that we used were great. We could not get to all of them. Perhaps the loan time could be lengthened-or you could make more than one kit out of the one we used." Third Grade teacher, Rudiger Elementary, Leon County, Florida

*FWC Staff used this valid recommendation by encouraging the teachers to co-teach individual units in the box. The time for using the box was also extended to encourage use of all the materials in the box*

3. "This program kit is excellent. I would like to schedule it in May so it would fit in my long-range plans." Teacher, Chaires Elementary, Leon County, Florida.

*FWC Staff attended meetings throughout the school year so we could solicit new participants for the program instead of just attending meetings in the beginning of the year. This enabled the teachers we didn't meet earlier in the year the option of requesting the program.*

4. "The entire program was wonderful! My students learned so much-not just about manatees. They strengthened their math skills by applying previously learned concepts to some of the activities in the kit. They also enjoyed learning about boat and water safety. This was a well planned program that my students and I enjoyed learning from." Fourth and Fifth grade ESE Teacher, Rudiger Elementary, Leon County, Florida.

*At the end of the first year staff culled some of the resource and information materials to lighten up the physical weight of the box. We also purchased a handcart to carry the box in a safer and easier manner to and from the classroom.*

## "Way of the Manatee" Treasure Box Program

each kind of classroom learner (see inventory sheet attachment).

To help close out and assess the program, the Treasure Box Outreach Coordinator developed a follow-up classroom presentation for the students. Staff shared manatee bones and a skull with the students and an active question and answer session showed teachers and staff what the students learned from the program.

### Program Implementation

During the summer and fall of 2001, staff attended workshops, festivals, and science and media teacher meetings in the community to advertise the treasure box program. Staff mailed out information about the program to all public and private schools in Leon and surrounding counties. Because the program is obtainable for free and delivered to the school or facility, the response was good. Teachers who signed up for the program gave us a tentative date most convenient for them to use the program. The Manatee Treasure Box program was on its way into the classroom.

### First Year Results, Evaluations and Improvements 2001-2002

The first year of the Manatee Treasure Box Program began in October of 2001 and ended May of 2002. The program was used in three counties -- Leon, Franklin and Wakulla. Twenty-one individual elementary classrooms and approximately one thousand students participated in the initial trial period.

Teachers assisted the program development by filling out evaluations at the end of their loan session. Staff used the evaluation forms to assess what needed to be changed. To the left are a few examples of the evaluations and how we improved the program for the upcoming school year.

(See attachments for a list of participating schools.)

## Second Year Results, Evaluations and Improvements 2002-2003

### Evaluations 2002-2003

1. “Students loved working with their science buddies to learn about manatees. The physical, hands-on materials made their learning so much more real and allowed them to be more actively involved.” Items used in the classroom: “Props -- life jackets, hats, sunglasses. Seaweed wands, manatee masks, puppet stage, canoe, flannel board, fabric cutouts, squeaky manatees, etc. Books, videos, music tapes, charts, posters, etc.” -- Kindergarten and fifth grades, Roberts Elementary, Leon County, Florida.

*The teachers’ interpretation and presentation is crucial in the use of the program. Staff spends valuable time introducing materials to teacher(s) before the treasure box is loaned to the classroom/grade level.*

*Special accommodations are given to teachers in the form of props not available in each box, such as the puppet theater and cutout canoe.*

2. “Great variety of items -- The materials provided both whole group and small group opportunities. The program helped me to cover content in science, reading, creative writing and math. I would love to use this treasure box again.” Second Grade, Springwood Elementary, Leon County, Florida

*A trend in repeat use of the program has been established and representation of all grade levels has been documented.*

Note: The inclusion of private schools, bilingual classrooms and home-school groups use of the Manatee Treasure Box program is indicative of the need for more outreach in those areas (see attachments for list of participating schools).

In this school year, the “Way of the Manatee” Treasure Box Program inspired a variety of student directed activities at Leonard Wesson and Roberts Elementary Schools in Leon County.

At Leonard Wesson Elementary, the second, third and fourth grade science students created a manatee play, choreographed a musical number from music provided in the treasure box and performed these pieces for all the other science students. Some of the science students used the manatee as the subject for their science fair project. FWC staff returned for the performance and helped judge the science fair. It was very rewarding to experience first hand how the treasure box helped students learn in a variety of ways.

At Roberts Elementary, a fifth grade class teamed up with a kindergarten class and they both learned about manatees together. Staff was invited to see the “Buddy” concept in action. The students used many of the subject matter included in the Treasure box as the base for plays, songs, poems and power point presentations.

Two home school groups, one migrant school, two private and fourteen public schools utilized the treasure box program in Gadsden, Wakulla, Franklin and Leon counties. During the school year, staff estimates that 1,200 students learned from the program.

Staff continued to share information about the treasure box program at education outreach opportunities in the community, which included staff participation as a guest speaker for the media specialists and science teachers of Leon County.



Wesson students

## Third Year Results, Evaluations and Improvements 2003-2004

### Evaluations 2003-2004

1. “I thought the program was wonderful. The lesson plans were very helpful and the teacher’s guide was very useful. The activities were plentiful and were very enjoyable for the children. The children learned a lot and enjoyed learning about manatee.” Third grade teacher, FSUS Charter School, Leon County, Florida

*Staff was treated to a classroom full of students who wore self-made manatee awareness t-shirts, a show of manatee artwork posted around the room and a display table full of manatee stories written by the students. The student question/answer session was very interactive.*

2. “The program was an asset to our study of the sea. Everything we need was in one place. The lesson plan format was helpful and easy to follow. The box was a real treasure to use and we look forward to using it again.” First Grade Teacher, Gilchrist Elementary School, Leon County, Florida

3. “This was an excellent hands-on kit. It was our introduction to our core-knowledge study of the ocean with a very real local touch. Thank-you for sharing this with us. I look forward to doing this again next year!” Second Grade Betton Hills Preparatory School, Leon County, Florida

4. “The treasure boxes are an excellent resource for teaching students about manatees. I appreciate how varied and appropriate all the materials are. I can tell you’ve spent a lot of time on the boxes. The understanding and love for manatees that my students develop while using your boxes definitely shows. It was time well spent! Thank you for sharing your materials with us.” Kindergarten, Roberts Elementary, Leon County, Florida

This year brought new opportunities for the education outreach staff to teach about the West Indian Manatee. An intranet company specializing in educational field trips on line for classrooms worked with staff to develop an e-field trip about manatees. This engaging self guided tour into the life of the manatee meant that elementary, middle and high school students nationally and internationally could learn about the manatee. The field trip reached students with much of the same information as the brochures, educational materials and the treasure box. Certainly, the reach was more efficient in connecting with students as over 25,000 public, private and home-schooled students in forty-five states visited the e-field trip web site. During the initial month the e-field trip was on-line, staff participated in a live chat with students about manatees and answered an additional 250+ questions in an “Ask the Experts” forum. Schools who utilized the “Way of the Manatee” Treasure Box Program took advantage of this new resource in their classrooms.

Two counties, Wakulla and Leon, used the “Way of the Manatee” Treasure Box program during its third year of evaluation. The program served over 1,500 students from seventeen separate public and private classrooms and was used in pre-K thru fifth grades, including an ESOL (English to Speakers of Other Languages) class of combined grade levels.

Based on the success of the program over the past few years, the 2003-2004 school year provided FWC staff with a variety of events to promote the “Way of the Manatee” Treasure Box Program. As a result, more people are now being educated about Florida’s manatees. (Highlights from the year are presented on the next page.)



Roberts students

## **Third Year Outreach Opportunities 2003-2004**

□□ Staff set up a Treasure Box program display for teachers participating at an accredited teacher’s summer program.

□□ Participated in the National Coastal Clean-up Day with a display about the Manatee Treasure Box Program as well as a hands-on activity for children.

□□ Attended a welcome back teachers day at a local museum, where teachers received free information and resources for their classroom.

□□ Provided information about the Manatee Treasure Box Program for science teachers at a county science teachers’ meeting.

□□ Staff taught a unit from the FWC Project Wild Activity guide to education majors from a local university and set up a display about the Manatee Treasure Box Program. (Two of the college students from the workshop borrowed the treasure box to teach eighty summer camp participants about manatees later in the summer.)

□□ Staff met throughout the year with other outreach educators from the area to share information about the Manatee Treasure Box. A display was set up to hand out information.

□□ Contents from the Manatee Treasure Box were used to teach cub scouts and their parents about manatees. (At this meeting approximately one hundred were in attendance.)

□□ A local preschool demonstrated their teaching abilities to the National Accreditation Committee using the Manatee Treasure Box program. The hands on approach and variety of materials included in the box provided the necessary tools for the teacher to be competitive for the consideration of accreditation.

□□ A college education student interning at a local elementary school received college credits while using the Manatee Treasure Box program to demonstrate teaching abilities.

□□ A teacher in the ESOL (English to Speakers of Other Languages) program at a local elementary school used numerous items from the Manatee Treasure Box Program to secure a grant for a unit of study on manatees. In this body of students nine different languages were represented. After the unit was studied, the students participated at a local festival with a booth displaying their art projects and written reports about the manatee.

□□ Contents from the Manatee Treasure Box were used for a preschool program at a local museum. Staff of the museum taught the manatee program for an hour each Saturday. The parents and preschoolers did hands-on activities to learn about manatees.

□□ Staff taught spring break and summer camp elementary level students about manatees using the Manatee Treasure Box program. The contents of the box enable educators to interpret the program as necessary according to the students learning level.

□□ Staff responded to inquiries from educators in other areas of the state who wanted to create their own Manatee Treasure Box program. A list of supplies and resources was created for these kind of requests.

## Future Plans



FWC staff talking about boating safety to a preschool class

The treasure box program will continue to be available in the north Florida area throughout the 2004-2005 school year. Some adjustments will be made with the contents of the box and the updating of information materials.

Staff is considering other possible outlets throughout the state of Florida where the treasure box can also be utilized. Locations, such as FWC law enforcement offices, environmental education centers and Regional or field offices are being reviewed.

The possibility of printing the education information in other languages beginning with Spanish, could broaden the treasure box audience and mission.

Most importantly, staff continues to pursue attendance at local and state educational meetings to inform others about the Treasure Box Program. Good representation and support are essential to the success of the treasure boxes' use.

## Expansion of Program

The success of this program will enhance other FWC endangered species programs as new boxes are developed and used around the state. Other FWC species boxes are under consideration for alligators and panthers. Development is now underway for right whales, sea turtles and habitat treasure boxes. The Florida black bear and shorebirds have similar boxes that are available to teachers who attend workshops (more information about these resources are available through the Project Wild workshops held around the state).



Home school students showing the manatees they made during the program



Call of the Wild Teachers' Workshop

## Training, Workshops and Conferences

Now that staff has had the opportunity to work with this program for a few years, it is time to train others at workshops around the state. During the 2004-2005 school year staff plans to target more training opportunities through groups such as the League of Environmental Educators, the Florida Science Teachers Association, FWC educators and law enforcement leaders, and local forums. Contact with school district staff and environmental education centers will increase the reach of this resource.

## Conclusion

What staff discovered from this program is that there is a need in local schools for free educational programs from government resources. Professional expertise along with hands-on opportunities allows students the opportunity to learn in a fun, interactive environment. It's that simple.

*“Environmental education is far more than providing information to create awareness. It is an approach to learning that provides us with opportunities and means to improve our lives by making appropriate choices. It inspires responsible action and cultivates positive, long-term behavior change.” (Blanchard, 1991)*

Ultimately, what staff hopes to accomplish from this program is to give students a sense of place.

*“Without a sense of place, we can not only lose ourselves; we can destroy the place. Other animals aside from human beings have a sense of place. They know how to live where they live. They adapt to the place.” (Roberts, 2003)*

When students understand their role in the environment and what they can do to enhance it, then we will have reached our ultimate goal of long-term stewardship -- individuals who can make responsible environmental decisions and actions throughout their lives. Dr. Kathleen A. Blanchard said it best when she wrote this about the role of government and education,



FWC Staff showing skull to homeschool students

## *“Way of the Manatee” Treasure Box Program*



Wesson students - puppet show performers

*“Government agencies need to realize that environmental education is a cost-effective complement to law enforcement for changing people’s behavior. Signs and fines must be balanced with hearts and minds for the behavior change to endure.” (Blanchard, 1991)*

The “Way of the Manatee” Treasure Box Program and similar environmental programs help broaden the hearts and minds of Florida’s students about their place in the environment. As a government agency responsible for the well-being of fish and wildlife resources in the state of Florida, it is imperative that environmental education opportunities be provided to students in Florida’s classrooms.

FWC staff is committed to assisting those individuals interested and willing to create a “Way of the Manatee” Treasure Box Program in their area of the state. Educational materials are available to send out free of charge and support to implement the program is available.

## References

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## Acknowledgements



FWC Outreach Coordinator - Jamie Hayes applauding students

*When the idea for this project first started to form, I met a dynamic individual who showed up in my office one day. Jamie Hayes, with two nephews in tow, approached me for the use of a manatee skull and bones to do a manatee education program at a local library. Her enthusiasm for teaching about manatees stuck in my mind. It wasn't too long after this meeting that I approached her to see if she would be interested in helping me develop the program. With some trepidation and excitement, she signed on and committed herself to developing and contributing to the creation of the education treasure boxes.*

*Now, five years later, she has greatly improved the program, mastered the classroom presentation and continues to be the driving force for promoting environmental awareness and manatee education in the panhandle counties. Needless to say, this program would not be what it is today without her love for manatees, her love for children and her endless energy. The support she provides educators and the contribution she gives to the field of environmental education benefits the students and the state of Florida.*

*My sincere thanks goes to Jamie for her creative ideas, enthusiasm, experiences, and expertise she used during the creation and implementation of the “Way of the Manatee” Treasure Box Program. Thank you, Jamie. You have done an awesome job for Florida's manatees.*

*Bonnie J. Abellera*

*Additional thanks goes to Adrienne Ruhl for her editing assistance with this report.*

**Attachments:**

**List of Resource Contacts  
Program Inventory Sheets  
List of Schools and Grades  
Reference Books Used in Program**



FWC biologist helping students put the bones of a manatee together

**List of Resource Contacts**



FWC staff at the Citrus County  
Manatee Festival

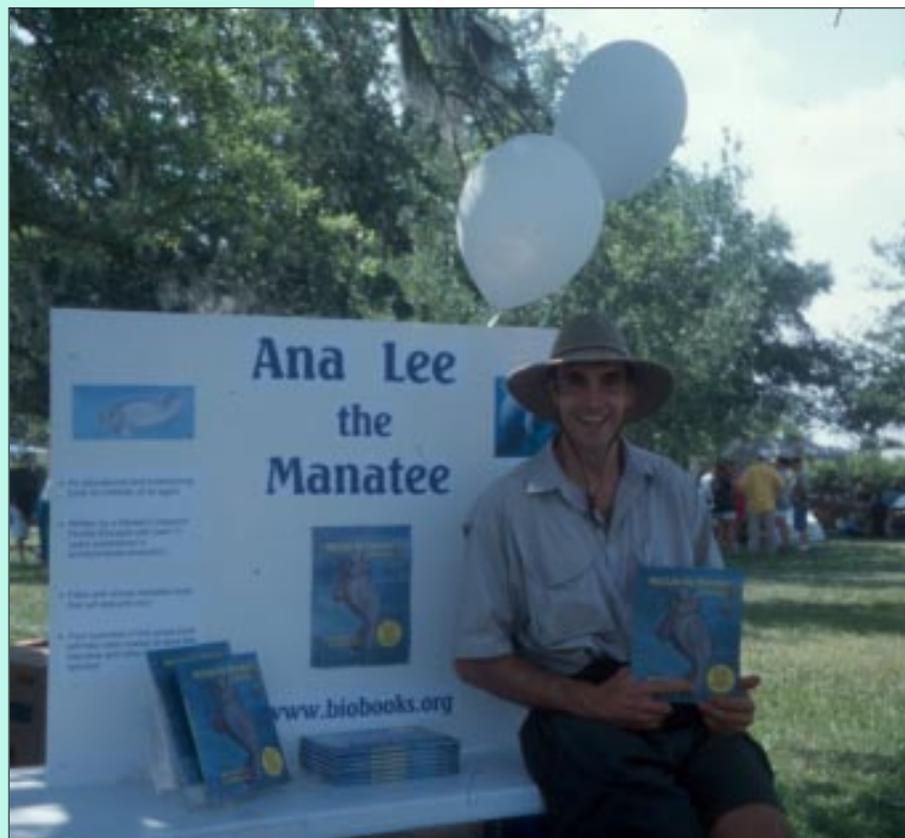
**Program Inventory Sheets**

**Pre-K to 5th Grades**

**List of Schools and Grade Levels**

**Franklin  
Gadsden  
Leon  
Wakulla**

**Reference Books Used in Program**



Rich Bray - Author of "Anna Lee the Manatee"

**Sunshine State Standards**