



2013- 2018

## Marine Science Center Strategic Plan



Volusia County  
Environmental Management

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## Executive Summary

The Marine Science Center (Center) opened in June 2002 as an initiative of the Volusia County Government to enhance the area's Environmental, Cultural, Heritage and Outdoor (ECHO) awareness opportunities. Initial phases of design and construction cost \$1.6 million, with funds contributed by the Florida Inland Navigational District, the Volusia County ECHO program, and the county's general fund. In June 2004, the Center expanded to include a seabird rehabilitation facility – The Mary Keller Sea Bird Rehabilitation Sanctuary. The Center is part of the Environmental Management Division of the Growth and Resource Management Department of Volusia County Government.

In the first 10 years of operation, the Center has hosted more than 580,000 visitors, cared for over 17,000 sea turtles and more than 9,000 birds, representing over 175 different species. The Marine Science Center is housed in an elevated, one-story “cracker-style” facility nestled into the twisted live oak and red bay forest. Components of the facility include a 2,600 square foot exhibition gallery, sea turtle observation terrace, surgical laboratory, sea turtle rehabilitation areas, the Mary Keller Sea Bird Rehabilitation Sanctuary, a nature trail and observation tower, gift shop and rest rooms.

The **Sea Turtle Rehabilitation hospital** is one of the major sea turtle rehabilitation centers in the United States. The hospital is a fully-equipped medical facility with digital x-ray, minor surgery area, and rehabilitation and quarantine tanks to provide full service sea turtle rehabilitation functions. The **Seabird Rehabilitation hospital** is one of the largest bird rehabilitation centers in Florida. The hospital is a fully equipped medical facility for bird rehabilitation including an ICU, conditioning rooms, flight cages, and exhibition areas for non-releasable birds of prey and seabirds. **Veterinary Services** are provided through a contract with the University of Florida, College of Veterinary Medicine, Aquatic Animal Health Program. The University of Florida provides a part-time veterinarian who provides care for all live animals at the Center.

The Center is open to the public over 300 days per year, operating Tuesday-Saturday from 10:00 a.m. – 4:00 p.m. and on Sundays from noon to 4:00 p.m. and closed on Mondays, New Year's Day, Christmas Day, and Thanksgiving Day. The Center is operated as a service of Volusia County Government to provide an educational experience for the public and to fulfill the requirements of the Habitat Conservation Plan/Incidental Take Permit (HCP/ITP).

The adopted budget for FY 12/13 is \$1,164,367. Total Revenue has increased dramatically since opening. In the first full year of operations, FY 2002-2003, the Center generated \$266,908.00. Last year, FY 2011-2012, the Center generated \$525,645.00 – a 96% increase.

The Center's annual attendance increased from 47,277 in fiscal year 2002-2003 to 73,825 in fiscal year 2011-2012 – a 56% increase. Attendance has increased dramatically in the last three years and is continuing to rise rapidly. In the last 12 months (June 2012- May 2013), the Center has had over 80,300 visitors. The popularity of the Center is widespread – the Center ranked as the #4 attraction in the Daytona Beach area by TripAdvisor. As of June 2013, 94% of the 132 unsolic-

ited reviews of the Center on TripAdvisor rated us excellent or very good. Our 4 ½ star rating earned their 2012 and 2013 Certificate of Excellence.

The great success that the Marine Science Center has enjoyed creates new and different challenges that require attention including staffing, parking, space issues, utilities, and the ability to care for the increase of turtles and birds to the hospitals.

Parking is a major issue that must be addressed. A high visitation day can exceed 1,000 visitors, with only 15 designated paved parking spaces, 2 ADA accessible spaces, and 15 unpaved parking spaces across Lighthouse Drive. Currently, the exhibit space is less than 3,000 square feet – the size of a nice home -- and yet it accommodated over 80,000 visitors in the last year.

The current gift shop has less than 200 square feet and yet it generated over \$230,000 in gross sales in FY 2011-2012. In addition, it is situated at the entrance to the exhibit area and all 80,000 visitors have to go through a narrow opening where gift shop customers are making their selections.

The success of the sea turtle rehabilitation program has made it one of the major sea turtle rehabilitation centers in the United States. This success requires us to make a renewed commitment to improving the medical facility. Currently, about 700 square feet is devoted to sea turtle medical functions. There are multiple uses in this space, many of which need to be separated. These same issues are also faced in the bird rehabilitation center.

To address these issues, the Center is planning an expansion to service the heavy public demand for services and to upgrade the medical facilities, and to possibly expand our hospital functions to include manatee rescue, triage and rehabilitation. The expansion would include new classroom space, lecture/public meeting space, visitor orientation and exhibition space, expanded gift shop, and improved medical facilities. The expansion of the exhibit areas to include a sea turtle and shark exhibit will increase visitation to the Center. Given the present trend in visitors, this should bring the annual attendance to over 100,000 visitors per year. Extension of the scope of medical services to include manatees would undoubtedly generate even greater attendance. These factors will generate significant new revenues from admissions and gift shop sales.

This document provides an overview of the operations of the Center and a vision for the future with goals, objectives and strategies and a timeline to achieve this vision.

## Mission

The mission of the Marine Science Center is to: 1) create inspiring marine education experiences, which empower our guests, 2) provide outstanding sea turtle and shorebird rehabilitation, and 3) promote the emerging field of conservation medicine.

## Vision

To continue to provide an outstanding environmental education and rehabilitation center that advances the efforts of sea turtle, bird, and marine mammal rescue, rehabilitation, and education.

To expand the current facility through a comprehensive plan for site development that will create a premier destination for immersive, interactive, and innovative marine educational experiences.

## Marine Science Center Goals

1. Inspire coastal stewardship by providing an awe-inspiring experience.
2. Rescue and rehabilitate sick and injured sea turtles and birds.
3. Promote the Center's mission and create conservation champions.
4. Achieve fiscal stability and success.
5. Expand the educational and rehabilitation capabilities of the Center.



## Background

Since its grand opening in 2002, the Marine Science Center (Center) has exceeded expectations as an environmental learning center. More than half a million visitors have experienced the rich and varied offerings of the Center.

The combination of marine education and outreach with a sea turtle and seabird rehabilitation center provides a significant service that is unique. To our knowledge there is no other county-funded and operated sea turtle and sea bird rehabilitation facility in the United States. This remarkable project has allowed Volusia County to stand at the forefront of county government efforts to educate our public about the marine resources of our area and to rehabilitate and release sea turtles and sea birds.



The spectacular assets provided by Volusia County beaches and waterways are an incredible natural playground for the 500,000 residents and the more than 9 million visitors that come to



Volusia County each year to enjoy swimming, sunbathing, fishing, boating and many more outdoor activities. The Center continues to grow and develop entertaining, educational experiences and timely coastal environmental messages to a diverse population of adults, children and students. The Center reaches a wide

range of people from different experiences and educational backgrounds to produce impassioned and informed stewards of the coastal environment.

The Center offers exceptional educational experiences that challenge, enhance, and transform visitors' awareness of the coastal environments around them, and teach the importance of being good stewards of our fragile marine environment. Educators provide formal educational programs for the thousands of school children that visit the Center, as well as public programs, live animal demonstrations, special events, outreach programs and summer camps.

Partnering with educational and research institutions, private and civic groups and businesses is another important key to successfully fulfilling the mission of the Marine Science Center.

These partnerships strengthen the Center's ability to reach more adults, children and students. Further development of these partnerships is crucial for future successes. All of the Marine Science Center's projects, whether planned as an exhibit expansion, or envisioned as part of an institutional expansion, are



dependent on continued support of the County Council and Volusia County citizenry. Economic and environmental factors will continue to play a critical role in the success of the Center.



## Description and History

The Volusia County Marine Science Center (Center) is uniquely designed to provide innovative and engaging educational opportunities and to rescue and rehabilitate sea turtles and sea birds.

### Location

The Center is located in the Town of Ponce Inlet in Volusia County. Located on Florida's east coast with its famous Atlantic Ocean beaches and extensive saltwater lagoons, Volusia County is a land sculpted by the sea. This area is home to a magnificent array of wildlife, many of which are listed as endangered or threatened by the U.S. Fish and Wildlife Service.

Loggerhead, green, leatherback, and hawksbill sea turtles use the same saltwater environments as do the endangered West Indian manatee, the Atlantic salt marsh snake, peregrine falcon, wood stork, roseate spoonbill, and gopher tortoise. The world famous beaches of Volusia County are important nesting habitats for these protected species and critical wintering habitat for the endangered piping plover. The area just off-shore is a critical habitat for the endangered northern right whale. More than 365 species of birds have been recorded from Volusia County. Volusia County is home to the headwaters of the Indian River Lagoon, which is considered one of the most productive estuaries on earth. The lagoon systems of Volusia County are the northernmost environment in the United States that support all three species of mangroves. These mangroves and salt marshes are home to an incredibly productive fishery.



### History

These fragile marine resources are under tremendous pressures from an expanding population, rapid growth, and the millions of tourists and residents who make recreational use of the Volusia County coastal areas. The Center was established to serve as an important educational institution to improve the public's understanding of the marine environments of Volusia County. In addition, the county identified an important opportunity to address the concerns of driving on

our beaches and the potential impacts of this activity on protected species of sea turtles. The county established the sea turtle rehabilitation center and the bird rehabilitation center to mitigate the impact of beach driving as part of the Habitat Conservation Plan and the Incidental Take Permit (HCP/ITP) developed by the county in concert with the U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission.

The Center opened in June 2002 as an initiative of the Volusia County Government to enhance the area's Environmental, Cultural, Heritage and Outdoor (ECHO) awareness opportunities. At the time of opening, the Center consisted of the primary education and exhibit area and the sea turtle rehabilitation facility. Initial phases of design and construction cost nearly \$1.6 million, with funds contributed by the Florida Inland Navigational District, the Volusia County ECHO program, and the county general fund. In June 2004, the Center expanded to include a seabird rehabilitation facility – The Mary Keller Sea Bird Rehabilitation Sanctuary.

In the first 10 years of operation, the Center has hosted more than 580,000 visitors, cared for over 17,000 sea turtles and more than 9,000 birds representing over 175 different species.

## Facility

The Center is housed in an elevated, one-story “cracker-style” facility nestled into a twisted live oak and red bay forest. Components of the facility include a 2,600 square foot exhibition gallery with exhibits on mangrove, dune, estuarine, and jetty ecosystems. Live animal areas and aquariums highlight many species of saltwater fish; exotic species introduced into Florida; freshwater



turtles; coral reef ecosystems; a 5,000 gallon artificial reef habitat aquarium; and a 1,300 gallon touch tank featuring cownose rays and other species. Other Center components include the classroom/laboratory, sea turtle observation terrace, surgical laboratory, sea turtle rehabilitation areas, the Mary Keller Sea

Bird Rehabilitation Sanctuary, nature trail and observation tower, gift shop and rest rooms.

The exhibit area of the Center includes innovative and dynamic displays. The exhibit hall provides an inviting atmosphere that draws visitors in to discover the wonders of Volusia County's coastal environments. Individuals of all backgrounds and physical abilities are able to learn from and be inspired by the exhibits.

The Center property is home to both sea turtle and sea bird rehabilitation facilities. Each area has specialized equipment and infrastructure to house and support the care and management of these Volusia County coastal treasures. The infrastructure includes more than 5,000 gallons of pools for the sea turtles and 6,000 square feet of aviary and bird enclosures for avian rehabilitation.



The Center's classroom and laboratory doubles as public exhibition space with hands-on marine specimens and an array of microscopes where visitors can examine a wide collection of interesting marine subjects. Aquariums house local fish and invertebrates. Marine science programs continuously run in the classroom to provide additional educational experiences. Crafts are availa-

ble to pique the interest of young visitors. The space converts to classroom use with 15 microscopes for examining plankton samples or laboratory use for dissections and other activities.

The Center includes a gift shop, which offers visitors the opportunity to take a variety of memories home as well as teaching opportunities in the form of books and puzzles. Even the plush animals link the child to the experiences and messages of the Center they will not forget. The Gift Shop provides an important source of revenue for the Center.

Once outside the Center complex, visitors enjoy a boardwalk through a maritime forest that leads to a two-story observation tower with a spectacular view overlooking Ponce de Leon Inlet. On these paths visitors can watch nature in action in this unique habitat.



## Organizational Structure

The Center is part of the Environmental Management Division of Volusia County Government. The Center is staffed with eight full-time team members and 24 contract service staff who work part-time hours. In addition, the Center recruits and trains volunteers and interns to conduct educational programs, assist in the care and rehabilitation of sea turtles and sea birds, and the living collection. In 2012, over 141 volunteers provided more than 8,300 hours of volunteer service.

### Program Areas

The Center's Manager oversees all aspects of operations. This position is responsible for all of the administration, planning, goals, and development of the Center, including supervising, directing, and coordinating all staff and volunteers including the contract veterinarian.

The position prepares and monitors the budget and expenditures and adjusts spending as required, including reporting all revenue activities to the County's accounting office. The manager acts as the liaison to the Friends of the Marine Science Center, the citizen's support organization. The position is responsible for all media interactions in conjunction with the County's Community Information Office and acts as public spokesperson for the Center to the media, Convention and Visitors Bureaus, civic groups and the general public, including presenting educational programs and lectures both at the Center and offsite. The manager is responsible for the physical plant and its maintenance and upkeep, in conjunction with the County's Facilities Department. The position is also responsible for maintaining all Federal, State and local permits required to operate the Center.





The **Sea Turtle Rehabilitation hospital** is one of the major sea turtle rehabilitation centers in the United States. The hospital is a fully equipped medical facility with digital x-ray, minor surgery area with rehabilitation and quarantine tanks to provide full service sea turtle rehabilitation functions. The hospital is run by the Sea Turtle Rehabilitation Coordinator,



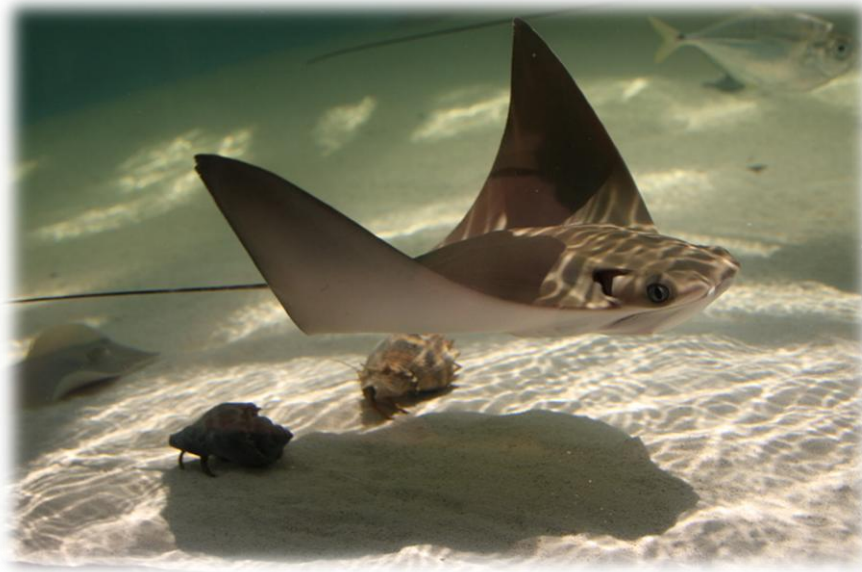
an Environmental Specialist II position, in conjunction with an Environmental Specialist I staff member. Additional staffing includes 1 part-time county position and 3 part-time contract services positions. The hospital is staffed 7 days a week, 365 days a year.

The **Seabird Rehabilitation hospital** is one of the largest bird rehabilitation centers in Florida. The hospital is a fully equipped medical facility for bird rehabilitation including an ICU, conditioning rooms, flight cages, and exhibition areas for non-releasable birds of prey and seabirds.



The hospital is run by the Bird Rehabilitation Coordinator, an Environmental Specialist II, in conjunction with an Environmental Specialist I. Additional staffing includes 5 part-time contract services positions. The hospital is staffed 7 days a week, 365 days a year.

The Center is home to the largest live animal exhibition in Volusia County. The **Living Collection/Exhibit Area** includes the aquariums, other live exhibits, and the life support systems



throughout the facility.

The collection includes marine species exhibited in a variety of marine ecosystems. The collection is run by the Curator of Living Collections, an Environmental Specialist II, in conjunction with 1 part-time contract position. The living collection is staffed 7 days a week, 365 days a year.

The **Public Program** function of the Marine Science Center provides formal and informal educational programs. The Public Programs Coordinator, an Environmental Technician, runs all the educational programming at the Center including programming for the general public,



summer camps and school programs. The Coordinator is assisted by 4 part-time contract services staff.

**Volunteers** play a vital role in all aspects of the Center. They assist in educational programming, special events, guest services, aquarium husbandry, sea turtle rehabilitation and bird rehabilitation. In

2012, 141 volunteers provided over 8,300 hours of volunteer service. The volunteer program is managed by the Public Programs Coordinator.



The **Guest Services** function at the Center includes operation and management of the gift shop, as well as the admissions and greeting of customers at the door. The Guest Services Manager, a Management Specialist position, oversees all guest services functions, purchases all merchandise, and manages all aspects of the Gift Shop,



admissions and telephone reception duties. The position is assisted by 7 part-time contract services positions. The Guest Services functions operate during all open hours 6 days a week, over 300 days a year.



**Veterinary Services** are provided through a contract with the University of Florida, College of Veterinary Medicine, Aquatic Animal Health Program. The University of Florida provides a part-time veterinarian who provides care for all live animals at the Center.

# Business Environment

## **Operating Hours**

The Center is open to the public over 300 days per year. It is open to the public Tuesday-Saturday from 10:00 a.m. – 4:00 p.m. and Sundays from noon to 4:00 p.m. and closed on Mondays, New Year's Day, Christmas Day, and Thanksgiving Day. Even though the Center exhibit area is closed to the public on Mondays, summer camps and special programs are often run on Mondays. Our animal care functions operate 365 days a year, requiring staffing 7 days a week.

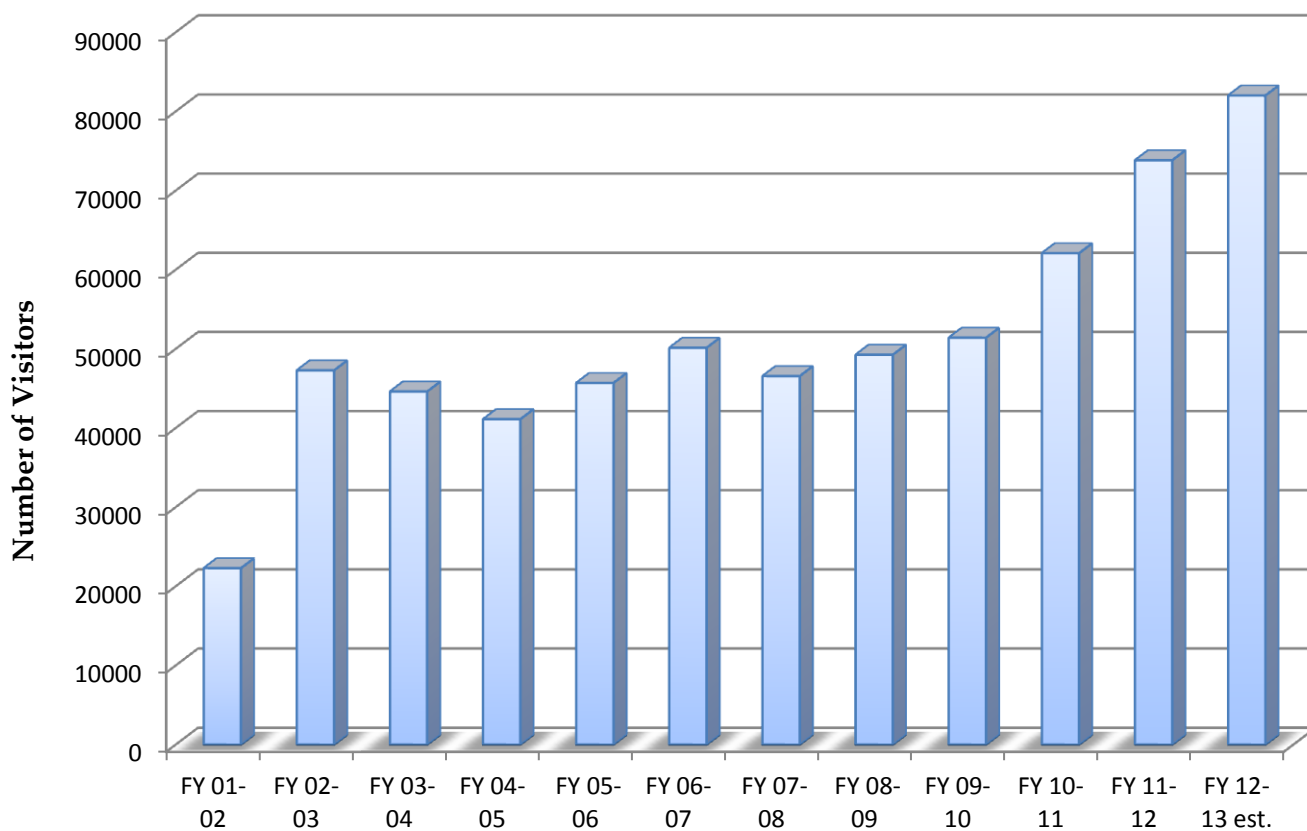
## **Annual Budget**

The Center is operated as a service of Volusia County Government. The core responsibility is to provide an educational experience for the public and to fulfill the requirements of the Habitat Conservation Plan/Incidental Take Permit (HCP/ITP), this document can be found at [www.volusia.org/services/growth-and-resource-management/environmental-management/natural-resources/beach-and-sea-turtles/habitat-conservation-zone.shtml](http://www.volusia.org/services/growth-and-resource-management/environmental-management/natural-resources/beach-and-sea-turtles/habitat-conservation-zone.shtml). The HCP/ITP allows beach driving on specific stretches of Volusia County beaches by requiring the rescue and rehabilitation of sea turtles and seabirds/shorebirds and the education of the public about the associated issues. Additional educational opportunities have been incorporated into the operation of the Center. The adopted budget for FY 12/13 is \$1,164,367.

## Attendance

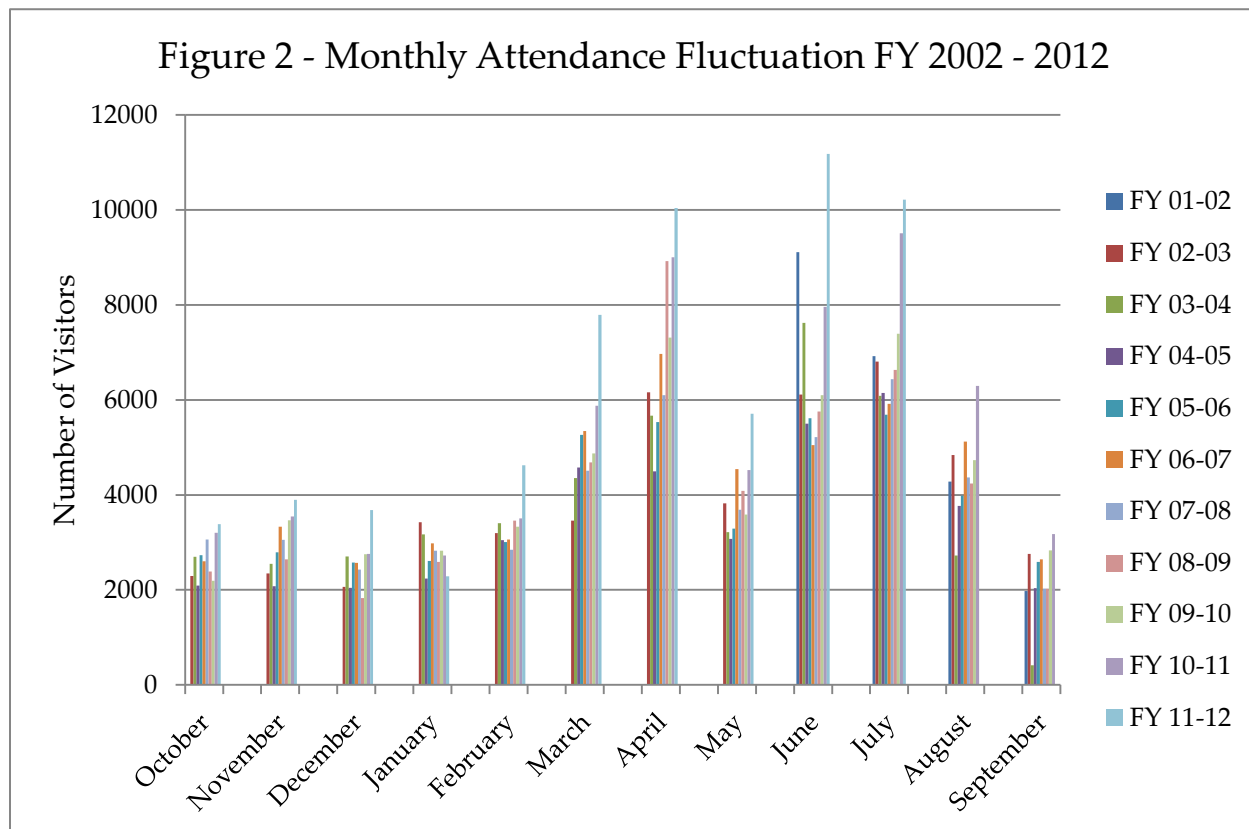
The Center's annual attendance from 2002 -2013 is shown in Figure 1. The first full year of operations was in fiscal year 2002-2003. Attendance increased from 47,277 in fiscal year 2002-2003 to 73,825 in fiscal year 2011-2012 – a 56% increase. Attendance has increased dramatically in the last three years and is continuing to rise rapidly. In the last 12 months (June 2012- May 2013), the Center has had over 80,300 visitors.

**Figure 1 - Marine Science Center Attendance FY 2002- FY 2013**



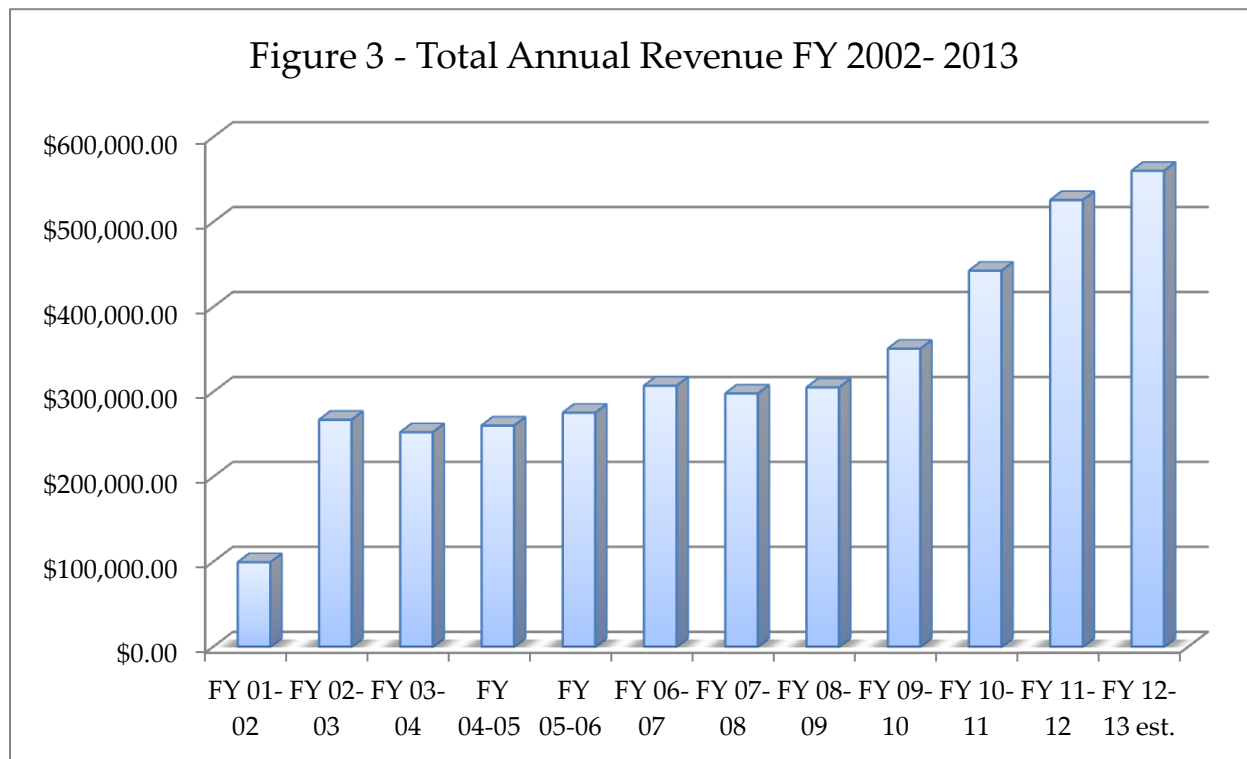


Monthly attendance data (**Fig. 2**) demonstrates seasonal attendance patterns. The two significant peaks are associated with traditional vacation periods of spring break and school summer break. The highest visitation is in March, April, June and July. May and the first half of August, before school starts, are also active visitation times. There is a significant opportunity to increase visitation during the slower months of September through February.



## Revenue

The Center budget is structured such that all revenue returns to the County's general fund. The Center's revenues are generated through a number of revenue streams, including admission, educational programs, and the gift shop. Gift shop sales account for the largest revenue source. In fiscal year 2011-2012 gift shop sales reached over \$230,000; sales have shown a dramatic increase of 95% from fiscal year 2007-2008.



Total Revenue (Fig. 3) has increased dramatically since opening. In the first full year of operations, FY 2002-2003, the Center generated \$266,908.00. Last year, FY 2011-2012, the Center generated \$525,645.00 – a 96% increase.

## Accomplishments

From 2010 to date, staff identified and completed a number of projects to enhance the visitor experience at the Center and enrich animal care and rehabilitation. A grant of over \$100,000 from the Sea Turtle Conservancy provided funds for a major expansion of the sea turtle quarantine life support systems.

Projects also included the installation of a touch tank in the display gallery, funded by the Friends of the Marine Science Center, and the redesign of the gallery to improve the flow of visitors through the exhibits. The touch tank has proven to be a significant asset to the displays while providing an important educational opportunity. The exhibit gallery redesign has ensured that visitors enter the facility through the main entrance to view the turtle rehabilitation tanks. Other projects have included improvements to the life support and lighting in the aquariums. These projects were funded by the Friends of the Marine Science Center and through a grant from the Ponce Inlet Port Authority.



An outdoor amphitheater was constructed in 2012-2013 through a partnership with a Boy Scout troop and the Friends of the Marine Science Center, providing a much needed outdoor seating area for group orientation and educational programming. An additional Eagle Scout project, with support from the Port Authority, will construct 2 raptor cages for the

glove-trained birds of prey. The project is scheduled to begin in 2013.

These new changes and the success in marketing the Center have spurred a continuing rapid growth in visitation in the last few years. The Center experienced a remarkable 58% growth in

visitation in just four years. Our popularity grows in the community as we continue to develop partnerships with other facilities.

The popularity of the Center is widespread – the Center ranked as the #4 attraction in the Daytona Beach area by TripAdvisor. As of June 2013, 94% of the 132 unsolicited reviews of the Center on TripAdvisor rated us excellent or very good. Our 4 ½ star rating earned their 2012 and 2013 Certificate of Excellence.



One family at a time – we are making a difference. Our 500,000<sup>th</sup> visitor



## Challenges

The great success that the Center has enjoyed creates new and different challenges that require attention including staffing, parking, space issues, utilities, and the ability to care for an increase in turtles and birds to the hospitals.

The increasing number of visitors generates additional demands for services provided by staff including educational experiences, general assistance to visitors, and ensuring the flow of visitors through the center. Increasing our attendance while maintaining a premium educational experience is a continuing challenge, especially with the limitations of our physical plant.

### Parking

Parking is a major issue that must be addressed. All activities that increase the attendance to



MSC existing paved parking lot with 15 spaces to accommodate 80,000 annual visitors

the facility will need to take into consideration the current limited parking. Currently, there are times when all parking spaces are filled and visitors have to search for other parking in the area, which is very limited. The lack of parking also affects staff and volunteers. Parking issues must be addressed both in the short term and in any long term plans.

A high visitation day can exceed 1,000 visitors. To accommodate visitor parking, the Center has 15 designated paved parking spaces and 2 ADA accessible spaces. There are an additional 15 unpaved parking spaces across Lighthouse Drive that visitors can use as they become



Unpaved parking along Lighthouse Drive



available. These spaces require visitors to cross Lighthouse Drive. Designated staff and volunteer parking is available for 4 vehicles at the unimproved driveway to the sea turtle hospital. An additional 3 spaces for staff, volunteers and Center vehicles are located adjacent to the main parking lot. This is inadequate for the needs of the Center and can result in a negative visitor experience.



### Entrance and Signage

One challenge facing visitors to the Center is the lack of an obvious entrance to the facility. In the current configuration there are two entrances to the property and this creates confusion for visitors. A modified entrance and wayfinding system is needed to improve the visitor experience. In addition, the roof of the Center presents a good opportunity to advertise to the nearby visitors of the Lighthouse.



Main pedestrian entrance



Parking lot entrance on Lighthouse Drive

## Exhibit Space

The Center has experienced tremendous success in attracting visitors to the facility. Visitation is up 58% since FY 2007-08. This rapid growth in visitation has far exceeded our current capacity and the small exhibit space can be so jammed that it negatively impacts the experience. Currently the exhibit space is less than 3,000 square feet – the size of a nice

home -- and yet has accommodated over 80,000 visitors in the last year. In our two busiest days in 2013, the Center hosted over 1,000 visitors on each day and over 6,600 visitors in 10 days.



## Gift Shop

The current gift shop is less than 200 square feet and yet it generated over \$230,000 in gross sales in FY 2011-2012. In addition, it is situated at the entrance to the exhibit area and all visitors

have to go through a 36" wide opening where gift shop customers and visitors are making their selections.





## Classroom and Meeting Space

The growth and demand for our varied educational programs can, at times, burst our capacity at the seams. Thousands of school children visit each year and we have outgrown the small 15-seat classroom. The current classroom is also an open public exhibit space and an area for craft activities for young children. The multiple uses of this space create conflicts that lessen the visitor's overall experience and limit the variety of programs that can be provided.



The classroom has to be closed to the public to provide organized school programs. Currently, there is not a space that can be used for evening programs. The existing classroom is not large enough for lectures with more than 25 people and has permanently installed lab tables that, while useful for lab programs for schools, limit the potential uses of the space. This space problem requires the use of outside deck areas for programs.



## Animal Treatment Areas

The success of the sea turtle rehabilitation program has made it one of the major sea turtle rehabilitation centers in the United States. This success requires us to make a renewed commitment to improving the medical facility.

Currently, there is a very small space devoted to sea turtle medical functions. The current space is about 700 square feet. In this space, there are 4 staff offices, x-ray space, treatment room, anesthesia and oxygen equipment, microscope and blood analysis lab, animal food preparation, refrigeration and freezer space for sea turtle food and specimen storage, washer and dryer laundry facility, and ozone water sterilization equipment.



Many of these functions need to be separated. There is no sterile space to perform medical procedures on the sea turtles. The food preparation areas need to be separated from the examination and treatment areas. The x-ray space needs its own dedicated area. Laundry facilities need to be separate from the treatment and food preparation spaces. Office spaces should be separated from food preparation and medical areas.





The Mary Keller Seabird Rehabilitation Center continues to be one of the major centers for the care of wild birds in Florida. The need for the care of thousands of birds continues to grow. Our partnership with Beach Patrol continues to provide a vital service to the injured wildlife that come ashore on our beaches. We need to improve our medical facilities for sea turtles and for seabirds to maintain our professional standards.





## Animal Care Emergencies

The Center is required to respond to natural events that affect regional wildlife. Sometimes these events far outstrip the daily operational functions of the center. Examples of these events include cold-stunned sea turtles, tropical storms driving hundreds of sea birds to the beaches, or the stranding of thousands of baby sea turtles on our beaches; all of these events require the



Center to expend extraordinary efforts to respond. In the past, we have converted half of the exhibit gallery into an emergency triage station for cold-stunned sea turtles. Responding to these events puts additional stress on the capacity of the Center.

## Utilities and Storage Infrastructure

The current lift station, water, and electrical capabilities are at the limits of their operational capacities. Life support systems will be needed for any new exhibits and may not be viable with the current electrical capacity for the facility.

In addition, the Center currently lacks sufficient storage for supplies, and access for large deliveries. The Center needs an access driveway to the storage area that will allow trucks to deliver supplies directly to the storage area. Currently, thou-



sands of pounds of frozen fish and salt are unloaded on Lighthouse Drive and transported by staff to makeshift storage areas on dollies up steep ramps or on a gravel-surfaced unimproved driveway or carried by hand.

## Office Space

The office space at the Center is another area of concern. There is only one defined office space in the whole complex for eight full-time staff, 30 part-time staff, our veterinarian and 140 volunteers.

We have converted two closets for office space for the education program manager and staff.



MSC Manager and Guest Services Manager shared office



Education program staff office in converted closets and in the main classroom



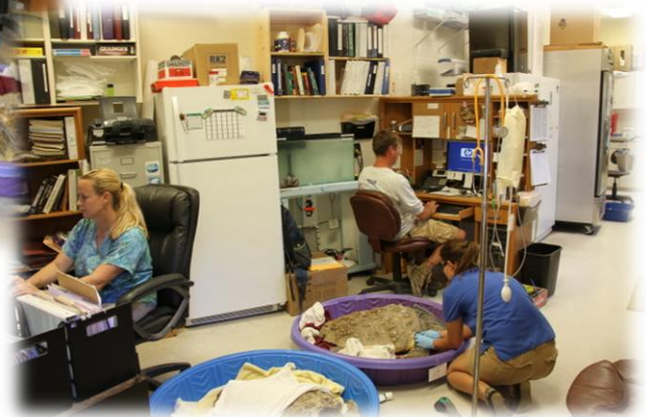
We added a shed for the two full-time staff at the bird hospital and we have four staff offices in the turtle hospital around turtle food preparation and freezers. There is also no space for the staff to meet. Staff meetings have to be held on the outside deck.



Bird hospital office



Sea turtle and aquarium staff office





Staff meeting on back deck

## Lighting and Signage

Improvements are needed to exterior lighting around the building and in the parking areas to enhance safety and visibility for staff and visitors. The current parking areas are not lighted, which limits the ability to offer evening programming.

# Objectives and Strategies

## Goal 1. Inspire coastal stewardship by providing an awe-inspiring experience.

### Objective 1

Teach stewardship and conservation through the exhibition of native Volusia County wildlife.

#### Strategies

- Create and continuously update displays and exhibits that are highly immersive and interactive and that speak to the community in ways that challenge and inspire
  - Develop graphic elements to improve visitor understanding of species and ecosystems.
  - Redesign the interpretive signage at the bird habitats.
  - Enhance the interpretive signage on the nature trail.
  - Develop new interactive displays.
  - Work with the Land Management activity's naturalist (Environmental Management Division), Coastal Division, and Parks, Recreation and Culture Division staff to coordinate programs and to promote activities on public lands across the County.
- Update feedback mechanisms for the public to express their opinions about the exhibits and their experiences, allowing the Center's team to gauge the effectiveness of the displays and make any necessary changes

### Objective 2

Provide programs and special events at the Center to promote Volusia County wildlife, habitats, and places to visit.

#### Strategies

- Review, update and develop hands-on environmental education experiences that challenge, enlighten, or enhance a visitor's views regarding the ecosystems around them.



- Review and update training materials for docents and volunteers.
- Develop a partnership with teachers to provide feedback on the curricula to assist in the development and review of programs to ensure that they are useful and appropriate for the students. The curricula will follow state educational standards.
- Create a feedback mechanism for teachers and students to evaluate the effectiveness of the programs and enable the education staff to adapt them accordingly.
- Develop pre- and post-visit materials that provide information and program content for teachers.
- Develop Programs related to surrounding area
  - Develop a wide range of adult and family programs that allow visitors of all ages to experience the environment surrounding the center.
  - Develop field experiences in Lighthouse Point Park.
  - Investigate the feasibility of carrying out field programs in Smyrna Dunes Park and other public lands.
- Continue to provide unique Summer Camp experiences.
- Continue a variety of special events including Wings on the Wind and Turtle Day and create new special event opportunities through partnerships.

### Objective 3

Increase attendance in current facility.

#### Strategies

- Analyze attendance, program, and revenue statistics to determine days and times when the facility could accommodate increased attendance.
  - Calculate the staff and volunteer time required to manage increased attendance during those times.
  - Create a cost analysis.
  - Increase formal educational offerings by utilizing attendance statistics to identify times when additional programs could be offered and/or group programs could be accommodated.
  - Calculate the staff and volunteer time required to manage the additional groups.

- Generate a cost analysis.
- Initiate additional informal education programs to include walking tours of the area and trips to the inlet.
- Expand and develop the volunteer program to accommodate increased visitation needs.

## **Goal 2. Rescue and rehabilitate sick and injured sea turtles and birds.**

### **Objective 1**

Continuously improve and update animal rehabilitation practices to provide the best care possible.

#### **Strategies**

- Review and update current best management practices.
- Develop and update training criteria and appropriate resources to develop team and volunteer skills.

### **Objective 2**

Continuously improve and update the physical facilities and equipment to provide the best care possible.

#### **Strategies**

- Review the plan of the physical facility and plan and prioritize upgrades
- Review the equipment and plan for needed improvements

### **Objective 3**

Develop a working partnership with the University of Florida, College of Veterinary Medicine to support progressive rescue and rehabilitation medical programs.

#### **Strategies**

- Expand the partnership with the University of Florida, College of Veterinary Medicine to include onsite internships, externships, and research for veterinary students and graduate veterinary students.

- Develop a working partnership with the UF College of Veterinary Medicine and Aquatic Animal Health Program that will support progressive rescue and rehabilitation medical programs and the Center’s educational programs.

#### **Objective 4**

Develop a large core group of volunteers capable of supporting high volume rescue and rehabilitation events.

##### **Strategies**

- Find new sources for expansion of volunteers.
- Improve retention strategies to keep volunteers.
- Develop a web-based volunteer administration program.
- Improve volunteer orientation program to accurately reflect the duties of volunteers.

### **Goal 3. Promote the Center’s mission and create conservation champions.**

#### **Objective 1:**

Expand the role of the Friends of the Marine Science Center.

##### **Strategies**

- Work with the Friends of the Marine Science Center to develop progressive fund raising programming that engages and involves businesses, civic and private groups.
- Work with the Friends and county management on named sponsorship opportunities
- Work with Friends of the Marine Science Center to:
  - Review and update Turtle Day and Wings on the Wind annual events.
  - Develop other Center specific events, i.e. “Night at the Museum.”

## Objective 2:

Continue development of communications through public relations, special events, and an innovative marketing plan that are progressive and adapt as the Marine Science Center continues to grow and mature.

### Strategies:

- Develop a new marketing plan for the Center. Work with the County's Community Information Division to:
  - Identify market segments currently utilizing services and identify new segments to target.
  - Develop new and improved methods to market the Center.
  - Develop feedback mechanisms to determine the success of marketing strategies.
  - Continue partnerships with area Convention and Visitors Bureaus and other entities that expand the awareness of the Center.
  - Re-evaluate opportunities to generate earned media, such as news articles and segments in local media outlets.
  - Identify potential arenas and develop promotional materials to match market segments within those arenas.
  - Utilize appropriate social media opportunities to expand awareness of the Center.

## Objective 3

Continue to develop and expand partnerships with educational and research institutions.

### Strategies:

- Develop partnerships with local universities that include research opportunities for interns, primary and secondary educational teacher training for interns through camp and outreach programming.
- Investigate partnerships through the University of Florida with the Whitney Laboratory.
- Further develop partnerships with other rescue and rehabilitation centers in Florida and throughout the United States.

#### Objective 4

Continue to develop and expand partnerships with local businesses and area attractions to increase visitation and participation in the programs of the MSC

##### Strategies:

- Work with local businesses to:
  - Develop and implement cooperative marketing approaches.
  - Develop and implement cooperative ticketing programs.
  - Develop and implement joint events.

#### Objective 5

Identify underserved or un-served market areas.

##### Strategies:

- Utilize data that has been collected to date that distinguishes market segments.
- Resume the periodic use of visitor surveys or other feedback mechanism to provide information regarding the market areas that may not currently be served through the Center's current informal and formal educational opportunities.
- Work with Community Information to identify earned media opportunities for the Center that will target these market areas.
- Work with local businesses, chambers, and tourism agencies to target these market areas.

### Goal 4. Achieve fiscal stability and success.

#### Objective 1

Enhance the earned revenue capacity of the Center.

##### Strategies

- Review fee structure for educational programming to generate additional revenue.



- Create new educational programs that provide added value to the educational experience at the Center and establish a fee structure for these programs.
- Review entrance fee structure.
- Expand Gift Shop.
- Review open hours/days of operation for increased revenue potential.
- Initiate a feasibility study for expanding opening hours seasonally to generate additional revenue (refer to Goal 5, Objective 3 below).

## Objective 2

Work with county management on opportunities for additional outside funding.

### Strategies:

- Establish a development plan to target funding opportunities through foundations, corporations and grants. Enhance the role of the Friends of the Marine Science Center in this fund raising plan.
  - Create new fundraising programs to include:
    - Annual Giving Program
    - Corporate Membership Program
    - Bequests
    - Develop and improve events including:
      - Night at the Marine Science Center
      - Halloween at the Marine Science Center
      - Reef Day
      - Turtle Day
      - Wings on the Wind
- Explore sponsorship possibilities, including naming opportunities.

### Objective 3

Initiate a feasibility study for expanding opening hours seasonally.

#### Strategies:

- Determine additional staff and volunteers required to manage visitors for the extended hours from 4 p.m. to 5 or 6 p.m.
- Determine additional staff and volunteers required to extend opening hours to include Monday.
- Identify current facility maintenance activities that take place during those hours that may need to be accommodated at another time, or that could become part of the visitor experience.
- Create a cost to revenue analysis.
- If determined feasible, initiate a trial run.

### Objective 4

Work with county facilities staff to create a comprehensive approach to the care and maintenance of the facility through the creation of a formalized maintenance plan.

#### Strategies:

- Outline care and maintenance schedules as well as failure/replacement timelines and estimated costs. The plan would include information on:
  - Care and maintenance schedules.
  - Life support systems in all areas of the MSC, including aquariums, turtles and birds.
  - Energy and water audits that would identify current efficiencies and replacement products.
  - Care, maintenance, growth, and expansion of the Center.
  - Develop a repair/replacement program that incorporates sustainable products, furniture, fixtures, and natural light, which will minimize energy costs and provide a long-term financial benefit
  - Facility expansion, as plans are provided. In order to reduce costs and – sustainable building designs, facility expansions will, where appropriate, incorporate natural light.

- Items identified by staff for consideration in the plan include roofing, outdoor lighting fixtures, boardwalks, and porches. Inspections, timelines and pricing for replacement are needed.
- Incorporate sustainable features where practical.
- Parking lot repaving.

## **Goal 5. Expand the educational and rehabilitation capabilities of the Center.**

### **Objective 1**

Create a master plan that incorporates all future growth ideas and includes the potential expansion of the facility to house a marine mammal rehabilitation center.

#### **Strategies**

- Increase building/facility capacity for visitors
- Add Orientation Center
- Expand Gift Shop
- Provide classroom and laboratory space
- Provide public lecture/multipurpose room
- Create new Sea Turtle exhibit
- Create new Shark Exhibit
- Construct additional space for the sea turtle and bird hospitals including:
  - The separation of rehabilitation functions such as food preparation, office space and wound care.
  - Surgical space that can be utilized by both hospitals and that includes the addition of a manatee rehabilitation/exhibition center.
  - Adequate animal care space for birds, sea turtles and manatees.
  - Large 100 foot flight cage for rehabilitating larger birds.

- Increased storage space for all areas.
- Dedicated space for staff offices out of food preparation and medical/surgical spaces.
- Conduct a feasibility study to determine whether a manatee care and rehabilitation hospital could be constructed on this site.
  - Work with UF Veterinary School, Federal and State agencies to determine whether expansion of the facility should include a new manatee care and rehabilitation hospital.
  - Staff will work with the UF Veterinary School, Federal and State agencies to determine facility requirements and ensure that all are included in construction design plans. Construction plans will include but not be limited to:
    - Pools for quarantine, rehabilitation and exhibition
    - Life support systems
    - Surgical space
    - X-ray space
    - Necropsy area
    - General hospital space for staff and veterinarian
    - Food preparation space
    - Refrigeration
    - Sanitation
    - HVAC systems
    - Storage space
    - Staff offices
    - Viewing areas
- Contract for the development of a comprehensive site plan and expansion plan. Use plans to actively fund-raise for expansion
- Apply for an ECHO grant
- Develop educational programming related to new exhibits

## Objective 2

Expand the visibility of the MSC through improved signage throughout the community, area roadways, and on the campus.

### **Strategies:**

- Install a sign on the roof of the Center, to be visible from the lighthouse
- Work with the Town of Ponce Inlet to increase signage leading to the MSC
- Work with the Town of Ponce Inlet, City of Port Orange, City of Daytona Beach Shores, Florida Department of Transportation, and Volusia County Public Works Department to improve signage along A1A to better direct visitors to the Center.
- Develop an internal way-finding plan
- Develop a consistent theme for all exterior on-site signage

### **Objective 3**

Enhance the visitor experience through improved visitor access and site aesthetics.

#### **Strategies**

- Establish additional parking opportunities to facilitate staff and visitor parking.
  - Work with stakeholders including Lighthouse Point Park, the Town of Ponce Inlet, State of Florida, local businesses, etc. to develop a comprehensive approach to parking issues within the Inlet area.
  - Establish bus parking spaces for school groups.
  - Identify and plan for additional parking spaces that will be required for future expansions.
- Incorporate exterior lighting improvements in the plans for current and future needs.
- Develop a plan for branding – creating a sense of arrival.
- Create perimeter fencing, gates, etc.



# Action Plan

Marine Science Center Strategic Plan 2013-2018

Action Plan

Goal	Objective	Strategy	FY 2013-2014				FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018				
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	
1. Inspire coastal stewardship by providing an awe-inspiring experience.	Teach stewardship and conservation	Create and continuously update displays and exhibits	Review	Research	Design	Construction																	Installation
		Update feedback mechanisms	Review	Implementation							Review												
	Provide programs and special events	Review, update and develop hands-on environmental education experiences	Review	Update	Implement																		
		Develop programs related to surrounding area	Review	Planning	Implement																		
		Continue to provide unique Summer Camp experiences	Registration	Camp	Review	Registration	Camp	Review	Registration	Camp	Review	Registration	Camp	Review	Registration	Camp	Review	Registration	Camp				
		Continue a variety of special events	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day	Bird Festival	Turtle Day						
	Increase attendance in current facility	Determine days and times when the facility could accommodate increased attendance.	Review	Update	Implement																		
		Expand the volunteer program to accommodate increased visitation	Review	Planning	Implement																		

Goal	Objective	Strategy	FY 2013-2014				FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018			
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
2. Rescue and rehabilitate sick and injured sea turtles and birds.	Continuously improve and update animal rehabilitation practices	Review and Update current best-management practices				Review				Update												
		Develop and update training criteria and appropriate resources to develop staff and volunteer skills				Review				Update												
		Review the plan of the physical facility and plan and prioritize upgrades		Review		Planning		Implement														
		Review the equipment and plan for needed improvements		Review		Planning		Implement														
	Develop working partnership to support progressive rescue and rehabilitation	Expand our partnership with the University of Florida, College of Veterinary Medicine to include onsite internships				Develop		Implement														
	Develop working partnership to support progressive rescue and rehabilitation	Develop a working partnership with the UF Aquatic Animal health Program to support improved rehabilitation programs in sea turtles, birds and marine mammals	Implement																			
	Develop a large core group of volunteers	Find new sources for expansion of volunteers				Research		Recruit														
		Improve retention strategies for Volunteers				Develop		Implement														
		Develop a web-based volunteer administration program	Implement																			
		Improve volunteer orientation to accurately depict volunteer duties				Review	Develop	Implement														

Goal	Objective	Strategy	FY 2013-2014				FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018			
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
3. Promote the Center's mission and create conservation champions.	Expand the role of the Friends of the Marine Science Center	Work with the Friends to develop progressive fund-raising strategies				Develop	Implement															
		Work with the Friends and County management on named sponsorship strategies				Develop	Implement															
		Review and update Turtle Day and Wings on the Wind events				Review	Implement															
		Develop plan for a new special event at MSC for FY 2013-14				Develop	Implement															
	Continue development of communications through public relations, special events, and an innovative marketing plan	Work with Community Information and the Friends to develop a new marketing plan for the MSC	Review	Develop	Implement																	
		Develop feedback mechanisms to determine the success of marketing strategies.				Feedback			Feedback			Feedback										
	Continue to develop and expand partnerships with educational and research institutions.	Develop the expanded uses of social media , including creating a new website and facebook page	Review	Develop	Implement																	
		Develop partnerships with area universities that include opportunities for teacher training				Research	Develop	Implement														
		Investigate partnerships with the UF, Whitney Laboratory				Research	Develop	Implement														
		Enhance partnerships with other rehab centers in Florida and the United States				Research	Develop	Implement														
	Continue to develop and expand partnerships with local businesses and area attractions to increase visitation and participation in the programs of the MSC	Work with local businesses to develop cooperative marketing, cooperative ticketing, and possible joint events by FY 2014-15.	Implement			Review	Develop	Implement														
	Identify underserved or unserved market areas	Create a survey to determine characteristics of current audience		Review	Survey		Report															
		Create strategies to market to identified audiences						Planning	Implement													



Goal	Objective	Strategy	FY 2013-2014				FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018					
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep		
4. Achieve fiscal stability and success	Enhance the earned revenue capacity of the Center	Review educational program fee structures	Review		Update		Implement																	
		Create new educational programming			Review		Update			Implement														
		Review entrance fees	Review		Update		Implement																	
		Expand Gift shop					Review		Update			Implement												
	Work with County Management on opportunities for outside funding	Establish plan to target funding opportunities	Research		Prepare Funding Packet		Approach Corporate and Foundation Prospects																	
		Explore sponsorship possibilities, including naming opportunities	Review		Update			Implement																
	Initiate feasibility study for expanding opening hours	Determine staff required to operate until 5 or 6 p.m.	Review	Update		Implement																		
		Determine requirements for opening on Mondays	Review																					
		Create cost/revenue analysis	Review	Update		Implement																		
		Initiate trial run					Implement																	
	Create a comprehensive approach to the care and maintenance of the facility through the creation of a formalized maintenance plan	Develop schedules of projected replacement /failure timelines and estimated costs.	Implement		Review		Develop		Implement		Review		Implement		Review									
		Incorporate sustainable features where practicable					Research		Develop			Implement												
		Repave the main parking lot			Research		Design		Permits		Construction													

Goal	Objective	Strategy	FY 2013-2014				FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018			
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
5. Expand the educational and rehabilitation capabilities of the Center.	Develop a master plan for site development	Work with the Friends of the Marine Science Center and County management to contract for the creation of a Master Plan document	Adopt	Let Contract	Design																	
		Conduct feasibility of incorporating marine mammal rehabilitation to the Center			Research		Incorporate in Design															
		Increase building capacity to accommodate increase in visitors, increased classroom/laboratory space, expanded parking areas, gift shop space, new shark and sea turtle exhibits, and improved hospital facilities.			Research	Design					Final Design			Construction								
	Expand the visibility of the MSC through improved signage	Work with the Town of Ponce Inlet to increase signage leading to the MSC		Review		Design		Construction														
		Install a sign on the roof of the Center to be visible from the lighthouse	Implement																			
	Enhance the visitor experience through improved visitor access and site aesthetics.	Develop improved parking opportunities for visitors, staff and volunteers		Research		Design		Implementation														
		Develop an improved way-finding plan for visitor use of the campus.		Research		Design		Fabrication		Installation												
		Develop a consistent theme for all exterior signage		Research		Design																
		Incorporate external lighting improvements			Research		Design		Installation													
		Create a physical sense of arrival with gates, signage, fencing and other components			Research		Design		Permits		Construction											