



# Turtle River Times

The Newsletter of the A.R.M. Loxahatchee National Wildlife Refuge

Issue 5  
Sept. - Dec. 2003

## Everglades Trail

by Mark Musaus - Refuge Manager

If you have walked the Marsh Trail lately or stopped to rest under the chickee hut, you have most likely noticed a new structure with a green metal roof. The latest addition to our interpretive facilities is called the Everglades Exploration Trail kiosk and is located on the northeast corner of the Marsh Trail. The Kiosk identifies the refuge as one of the sites along the recently created Everglades Trail. The Trail is not a specific route, but rather more than 20 sites that serve as gateways to learn more about and appreciate the unique Everglades. Local, state, and federal agencies joined together to create this fun and educational opportunity for public enjoyment of the Greater Everglades Ecosystem. Extending from the Kissimmee River, through Lake Okeechobee and the Big Cypress into Florida Bay the Everglades Trail provides you a chance to see the size, diversity of habitats, and wildlife that use this incredible wetland system.



Everglades Trail sites include other National Wildlife Refuges, National Parks, State Parks and  
(Continued on page 3)

The Everglades Trail is a project initiated by Wilderness Graphics, Inc., the Florida Chapter of the Nature Conservancy, the Friends of the Arthur R. Marshall Loxahatchee National Wildlife Refuge (formerly known as Loxahatchee Natural History Association). The Trail was introduced by U.S. Senator Bob Graham and created with the support of Office of Greenways and Trails, Florida Department of Environmental Protection, with the assistance of Visit Florida and participation of local, state, and federal agencies.

### In This Issue

Everglades Trail .....	1
Environmental Education.....	2
Art Contest.....	3
Operation Phoenix.....	4-5
LILA Update.....	6
Impoundment Update.....	7
Speakers Bureau.....	8
Photo Contest.....	9
Calendar of Events.....	10-14
Focus on: Law Enforcement.....	16-17
Spores Galore.....	18
Kids Corner.....	19

## Environmental Education at Loxahatchee

by Serena Rinker

Are you a classroom teacher, home school parent, scout leader, or preschool director? Are you looking for a site within Palm Beach County to take your students or scouts to experience the Everglades? The environmental education division at the refuge can assist you. The Arthur R. Marshall Loxahatchee National Wildlife Refuge is a very special part of Palm Beach County. It is the only national wildlife refuge in the county, and it is the last remaining portion of the northern Everglades. There is only one Everglades in the world, and Palm Beach County students have a unique opportunity to visit and learn from this fascinating ecosystem.

The environmental education program at the Refuge has been in existence for many years. Currently, we are offering educators the opportunity to book field trips with the refuge staff. By calling 561-735-6029, at least two weeks prior to your requested day, staff will assist in preparing the curriculum and may be able to give a 10 minute introductory welcome talk to your group. Please let us assist you with your trip so that your students can have a safer, more effective learning experience.

Supervisors of educational groups visiting the

refuge are responsible for insuring that the group's participants observe all refuge regulations. There are no picnicking facilities at the refuge and groups should eat before or after the refuge visit. Sack lunches on school buses are permitted for groups staying the day, but care must be taken to prevent littering, food being offered to wildlife or food left where wildlife can get to it.

All fees are waived for

educational group visits. If however, you are a director of a summer camp or other facility that requires you to charge for the services you provide, commercial fees do apply. The commercial fee for groups of 25 or less is \$25.00 per vehicle. For vehicles containing 26 or more people, the fee is \$50.00 per vehicle.

The refuge Visitor Center is open 9:00 am to 4:00 pm on weekdays, 9:00 am to 4:30 pm on weekends and holidays and closed on Mondays and Tuesdays during the summer season (mid-April through mid-October). Often, the first step for any group would be touring the Visitor Center to view the orientation video and exhibits. From the Visitor Center, the Cypress Boardwalk and Marsh Trail are within easy walking distance. The chickee located at the Marsh Trail parking lot can be utilized by educators. This chickee (Seminole for hut) is a teaching pavilion that can be reserved for an outdoor classroom teaching experience. The observation tower located half-way around the Marsh Trail with its close proximity to the LILA (Loxahatchee Impoundment Landscape Assessment) informational kiosk make for additional educational opportunities. A handicap accessible observation platform, fishing platform and 5.5 mile canoe trail loop are located at the boat ramp area.

The refuge will be offering two introductory in-service teacher workshops. One will be on Saturday, October 11, 2003 and will be repeated again on Saturday, April 3, 2004. If you are an educator with the School District of Palm Beach County, these workshops will offer you in-service points. Contact either Fred Barch, Science Program Planner, Department of Secondary Education (561-434-8199) or Corinne Measelle, Science Program Planner, Department of Elementary Education (561-434-8253). If you are a home school parent, scout leader, preschool or camp director you are also welcome to expand your knowledge of the refuge. The anticipated outcome of this workshop will be a better understanding of this ecosystem and



some activities that can be taught while on the refuge. If you are interested in helping take written curricula and matching it to standards and FCAT, please contact Serena Rinker (Interpretive Specialist) at 561-735-6029.

If an educator wants to call National Audubon Society - Everglades Conservation Office at (800) 498-8129, they can set up a day long field trip led by naturalist educators. The Audubon field trip focuses on: water and its role in the Everglades, plants and animals of the Everglades, and natural history and human effects on this ecosystem. National Audubon Society offers educators other field trip sites and teacher in-service workshops. For more information and costs contact the above number or their website at: [www: audubon.org](http://www.audubon.org).

*(Everglades Trail continued from page 1..)*

Management Areas, a National Estuarine Research Reserve, South Florida Water Management District lands, U.S. Army Corps of Engineers lands, and the Disney Wilderness Preserve. To help the public learn more about each site and to guide them along the way, two products are being developed. One will be a brochure with a map of the Trail. The other is a CD that will enable you to listen to stories of wildlife and the history of the region, as you drive the Everglades Trail. A special bonus CD offers recordings of diverse musical interpretations of the region by Florida musicians, including two songs by Florida's most famous musician, Jimmy Buffet. The CDs and brochures will be available at sales outlets at the participating sites.

Both refuge staff and the Friends of Loxahatchee Refuge played key roles in planning, outreach, and operation of the Trail. Refuge staff attended several planning meetings and constructed the kiosk. The Friends group is a key player in the Trail. They assisted in the application of grants for funding of the Trail, donated \$5000 for the construction of a kiosk, and agreed to serve as the warehouse and supplier of the interpretive materials to other sales outlets.

For more information about the Trail you can go to [www.evergladestail.com](http://www.evergladestail.com) or log on to Visit Florida at [www.fl.usa](http://www.fl.usa).

**Announcing.....**  
**“SPIRIT of the REFUGE”**  
**The 16<sup>Th</sup> Annual Art Contest**  
**of the Friends of Loxahatchee**  
**National Wildlife Refuge**

Visit the Refuge where, amid the tranquility of nature, light, color, and form play together to delight your artistic eye and arouse your creativity for our annual art contest and show.

There will be two categories. The Open Category includes prints, oils, acrylics, watercolor, mixed media, and drawings. The Sculpture Category will be judged separately. Crafts, photography, computer generated art, or posters will not be accepted. Contestants may submit two entries that have not been shown in any previous refuge art contest.



Entries will be accepted from 12-4 PM on January 16, 2004 and 9 AM-12 PM on January 17, 2004. Contest rules will be available in the visitor center.

A public reception for artists displayed in the show will be held in the visitor center on Sunday, January 18, 2004, from 1-3 PM. Refreshments will be provided by the Friends of Loxahatchee Refuge. Contest rules and information may be obtained by visiting or calling the visitor center at 561-734-8303.

## 'Operation Phoenix', Rising from the Ashes: the Re-introduction of Prescribed Fire in the Refuge Interior

By: *Bill Thomas, Jr - Wildlife Biologist (Exotics/Fire Mgmt.)*

Just as the 'Phoenix', a mythical bird that rose from the ashes to start life anew, the Refuge's prescribed fire program has risen once again after a nearly two decade absence in the refuge interior. The C-8 prescribed burn last year signaled the beginning of re-instituting prescribed fire as a management tool on Loxahatchee NWR.

On June 10 and 11, refuge staff, assisted by fellow FWS employees from four different



refuges, conducted the first prescribed fire in the northeastern refuge interior in nearly 18 years. Approximately 2,400 acres of sawgrass, adjacent to the Strazzulla Marsh tower, was fired using aerial ignition techniques; a helicopter with a specialized machine that drops ping pong balls downward and which ignite some 20 seconds after hitting the ground. This permits much faster ignition and coverage of larger acreage than could be done by solely igniting from airboats. The burn perimeter was ignited using a newly purchased airboat-mounted propane torch. The burn unit was interspersed with natural fire breaks such as wet prairies and sloughs which provided for effective containment of the fire. At no time did the fire threaten to cross the burn perimeter. Prevailing winds carried smoke over the refuge interior to the agricultural areas to the west. Specific objectives of the burn were to: 1) consume

a certain percentage of sawgrass within the designated burn unit; 2) reduce a percentage of standing dead sawgrass biomass; and, to 3) control or kill invasive exotic plant seedlings and/or reduce dead exotic plant biomass.

Overall, the burn operations went extremely smooth with only a few minor glitches, mostly equipment failures. The burn began with a thorough briefing for all participants, their duties/roles, area to be burned, proposed ignition techniques, suppression operations, smoke management, expected weather, and safety-related issues. Ignition operations commenced at approximately 11:30 am on Tuesday, June 10. However, firing operations were suspended as of 3:00 pm due to high relative humidity and spotty rain with nearly one-third of the NE burn unit completed. Operations continued at approximately 9:30 am on Wednesday, June 11, with complete burn out of the unit by 1:30 pm. Crews were then mobilized to the southern end of the Refuge after a short lunch break, to begin firing operations on approximately 1,700 acres in the southern interior marsh. However, the burn was scrubbed because water levels were deemed to high to permit an effective burn and would have resulted in burn objectives not being achieved.

Refuge staff who participated in this historic event included: biologists Thomas and Arrington, biotech Darby, law enforcement officers Calvert and Cottingham, and lead fee ranger Boliek. Staff served in roles such as ignition and suppression operations, security, equipment repair, and helicopter support. Many other staff participated indirectly and directly during the pre-planning, day of, and post-burn phases of the operations, and their efforts are greatly appreciated. Selected sites within the burn unit will be monitored to see if the burn objectives were achieved. Sites will be monitored closely for invasion of Old World

climbing fern.

Airboat excursions into the burn unit after the fire indicated an abundance of wildlife using this area. During post-burn monitoring, several white-tailed deer does with fawns were observed in the recently burned area as were a plethora of bird species taking advantage of foraging in the newly created open habitat. In two to three months, the sawgrass will grow back completely, but the fire will spur the growth of newer, more palatable plant species which are much more favored by wildlife. Many areas were left unburned to serve as refugia for any wildlife attempting to escape the flames. Most Everglades wildlife and plant species are adapted to fire, as fires were a natural occurrence for years prior to the arrival



of humans, and helped shape the mosaic of habitats across South Florida including the Everglades landscape. Human encroachment, urban development, drainage and manipulation of water levels, and habitat fragmentation have all contributed to fire suppression in the Everglades leading to more destructive and damaging wildfires, and has promoted, or has accelerated the spread of invasive exotic plants. Fires which are 'prescribed' allow fires to be conducted under controlled conditions based on projected temperatures, wind, and humidity levels. They are generally not as intense, are therefore more controllable to a degree, and certain ignition techniques can be used to limit negative impacts to wildlife permitting them to escape the fire.

Some of the benefits of using prescribed fire include: improving or maintaining habitat for wildlife, stimulating the growth of nutritious wildlife forage, creating scenic vistas, reduction

of dangerous fuel loads, reduce invasion by hardwood and shrub species, removing noxious vegetation, restoring and maintaining fire-dependant communities, and cycling nutrients back into the system. Today the role of fire on A.R.M. Loxahatchee N.W.R. is to provide as much of the same benefits that fire did historically. This can be accomplished through the use of "prescribed fire".

### **Butterflies are Free... But their garden needs some TLC**

If you like butterflies and like to garden, the refuge has an opening for a butterfly garden volunteer. If you are a current volunteer or would like to be one, contact Volunteer Coordinator Lois Chapman for these and other opportunities at 561-735-6030 or email her at [lois\\_chapman@fws.gov](mailto:lois_chapman@fws.gov).



### LILA Update

by Eric Cline - SFWMD - Onsite Manager for the LILA Project



Figure 1: LILA - earth moving complete

As the dust from construction clears, the scientists and staff workers associated with the Loxahatchee I m p o u n d m e n t Landscape Assessment (LILA) project look ahead to the next phase of the project. The next two years

of the project are planted on the ridge landscapes in LILA.

The other side of vegetation management, the control of undesirable species, has proven to be a challenging but obtainable goal. Professionally certified herbicide applicators were brought in to control expanding Cattail (*Typha spp.*) populations. This initial application along with carefully controlled spot spraying has been very successful in managing this problematic plant species.

Lastly, instrument installation and operational testing are set to begin as soon as electrical service has been routed to the recirculation pump. Refuge and SFWMD staff met with the Florida Power and Light to ensure the safety and success of this endeavor. The construction of conduit is scheduled to be completed by the end of September.

dedicated towards giving the four macrocosms a makeover, readying them for assessment studies that will begin in 2005. This preparation consists of vegetation management including the establishment of desirable species and control of undesirables, instrument installation, and operational testing.

South Florida Water Management District (SFWMD) and A.R.M. Loxahatchee National Wildlife Refuge staff were pleasantly surprised to find that desirable, native vegetation began to colonize LILA soon after construction was completed. Species such as Bladderwort (*Utricularia spp.*), Pickerel Weed (*Pontederia cordata*) and Duck

Potato (*Sagittaria spp.*) are flourishing. SFWMD scientists and refuge volunteers transplanted nearly 4,000 White Water Lily (*Nymphaea odorata*) rhizomes in the four macrocosms. Saw grass (*Cladium jamaicense*) seeds are currently being

collected and germinated by the SFWMD at the Botanical Research Complex on the campus of Florida Atlantic University. This plant species, commonly found in the Everglades, will soon be



Figure 2 & 3: SFWMD scientists planting water lily rhizomes in LILA



Figure 4: Refuge, SFWMD, FPL staff and contractors meet to discuss routing electrical service to the recirculation pump

Approximately 98 percent of the land in the Refuge System is open to the public, with over 30 million visits to refuges in 1996. Over forty percent of refuge visits occur on only 10 refuges.

## Impoundment Update for Fall 2003

By: Kristina Sorensen, Wildlife Biologist

### What's been happening in the Impoundments?

Water levels were lowered in the Spring (March-April) to attract migrating shorebirds. We had a good response, with many species of birds using the impoundments including yellowlegs, snipe, least sandpipers, killdeer, woodstorks, and several species of duck and wading birds. In addition, black-necked stilts successfully nested in C7.



During the summer, we let water levels rise with the summer rains. You may have noticed that there were fewer birds in the impoundments during this time. This is

expected because many species, including ducks, shorebirds, and songbirds, head north during migration and are not here during the summer. Secondly, when water levels are high, fewer birds can utilize the impoundments for feeding. However, it is crucial for us to raise water levels to maximize wildlife use over time. Water is held high in the impoundments for three main reasons: 1. to slow vegetation growth, 2. to allow fish and vertebrate communities to recover, and 3. because this is the rainy season in Florida and we wish to mimic natural environmental patterns. If water levels are kept low for too long, the prey base is depleted and invasive vegetation can become established - causing birds to leave the area. It takes time for these areas to recover after a drawdown, which is why drawdowns do not last long, and why water levels are raised quickly after a drawdown. We lower the water levels twice a year in the fall and the spring, in conjunction with fall and spring bird migration.

Although the number of birds may be lower in the summer, there are some spectacular sights to see at the refuge during this time. Summer is the breeding time for many animals - and the impoundments were a great place to see young animals this summer. Great blue herons nested in the cypress trees in C8, and two-red shouldered hawks had a nest nearby. In addition, a number of young birds could be seen in the impoundments. We had two families of Limpkins that were routinely seen in the canal east of C9. In C8, night heron and green heron chicks were observed foraging around the cypress trees. Dozens of common moorhen chicks following their parents were seen throughout the impoundments in July and August. Mockingbird chicks were routinely spotted in the shrubs that line the compartment edges. Baby turtles were observed around C6, and at night, the calls of male frogs and toads were deafening as they attempted to attract females.

### Why are you cutting the vegetation?

South Florida is a warm, sub-tropical climate that allows vegetation to grow continuously. Because of this, we must carefully manage vegetation growth in our impoundments or else they will fill in with thick shrubs and grasses. This creates unsuitable habitat for foraging wading birds, and reduces wildlife viewing opportunities for the public.

Rather than use toxic chemicals to treat the vegetation, we prefer to use mechanical control. This explains why you will sometimes see us using a cookie-cutter in the impoundments. A cookie-cutter can be thought of as a mower for the impoundments. It allows us to cut back the



vegetation, and to provide open areas for birds to forage. Many species of birds, especially shorebirds, need open areas to successfully forage. The cut vegetation also serves as a food base for invertebrates, an important food item for many birds. So the next time you see a cookie-cutter being used in the impoundments, you will understand the importance of this management tool.

### **What's going to happen next?**

Water levels will be kept high through October. Cookie-cutting will be conducted in September to reduce the amount of vegetation. Water will be slowly lowered for fall migration beginning in late October. The drawdowns will be staggered among compartments to provide a mosaic of habitats for birds using the area. Water levels will be kept low until December. In late December, the water will be brought back up to allow prey populations to recover. The next drawdown will occur in late January/early February.

### **Need a Speaker for Your Group?**

Since its modest beginning of four programs in 1984, the Speaker's Bureau has slowly evolved, grown, and prospered. By the end of 2002, over 20,200 people from all walks of life including school groups, garden clubs, special interest groups, mens and women's clubs, adult education groups, church groups, and homeowner's associations have been introduced to the wonders of the refuge.

Ever wonder how many eggs an alligator lays? What is the Northern Everglades really like? Just what is the Arthur R. Marshall Loxahatchee National Wildlife Refuge and who lives there? If you belong to a group or organization that holds regular meetings for its membership, you can request our Speaker's Bureau to present a program that will answer these questions and more.

Just give us a call at 561-735-6030 and ask for Volunteer Coordinator Lois Chapman or for the speaker's bureau volunteer representative Harvey Eisen. Harvey can generally be found at the refuge on Friday mornings before noon.

## **Calling All Volunteers**

We have positions available for people interested in working in our Visitor Center on weekends. The Visitor Center is staffed with a morning and an afternoon shift. Each shift is four hours in length with a special need for both the morning and afternoon shifts on Saturdays. Additional help is occasionally needed for Sunday shifts.

If you are a current volunteer or would like to be one, contact Volunteer Coordinator Lois Chapman for these and other opportunities at 561-735-6030 or email her at [lois\\_chapman@fws.gov](mailto:lois_chapman@fws.gov).

---

## **Meet the Staff**

**Project Leader....** Mark Musaus

**Deputy Project Leader....** Rolf Olson

**Refuge Operation Specialist....** Mindy Gautreaux

**Administration....** Kim Arserio, Jean Ryan

**Everglades Program Team....** Nick Aumen, Matt Harwell, Leslie MacGregor, April Thompson, Michael Waldon

**USFWS Ecological Services....** Cindy Brashear

**Law Enforcement....** William Calvert, Shawn Cottingham, Jared Klein

**Wildlife and Habitat Management....** Bruce Arrington, Laura Brandt, Erynn Call, Camille Darby, Don Filipiak, Jennifer Hinckley, Gayle Martin, Stefani Melvin, George Pelt, Kristina Sorensen, William Thomas, Jr.

**Maintenance Operations....** Manuel Garcia, Jerry Grist, Allan Hansen, Steve Matzkow

**Environmental Education &**

**Interpretation....** Bob Arserio, Lois Chapman, Serena Rinker

**Fee Staff....** Keith Boliek, Lew Hecker, Marie Pohl

**LILA On-site Manager ...** Eric Cline (SFWM)

## 21<sup>ST</sup> Annual Refuge Photo Contest Big Changes Present Bigger Opportunities

Do you have a great photo from the Refuge that you never got around to entering in the photo contest? Or one that wasn't eligible because it was black and white or a digital creation? Dig them out! The annual photography contest sponsored by The Friends of the Loxahatchee Refuge is getting a "make-over." Watch for the Call for Entries with all the details.

Highlights of the rules changes include:

- The prizes are bigger! There will be a small entry fee – but the prize money is higher.
- All entries must be unmatted print mounted on black mat board; slides will not be accepted.
- There are two (2) divisions – Adults and Students
- There is no restriction on when the photos were taken – as long as they were taken on the refuge.
- Up to five photos in any of the categories may be entered. The categories are:
  - o Animal life
  - o Plant life
  - o Scenics/landscapes
  - o Nature close-ups – macro shots
  - o Special techniques (includes digital manipulation, black & white, infrared, montage, multiple exposure, special effects filters, cross processing, Polaroid transfers, shifted color balance, etc.)

Both the scenics and special techniques categories may include photos of people enjoying the refuge.

So that the winning photos can be displayed during the Everglades Day festivities, the contest dates are earlier than in the past. The deadline for entries is December 20, 2003, and the judging will be in early January. For the first time, entrants will be invited to observe the contest judging.

Also new this year, the contest winners may offer their photos for sale if they agree to make a

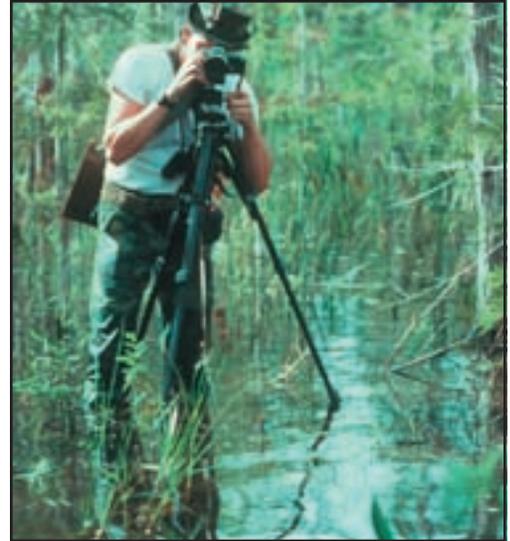
donation of 25% of the sales price to the Friends of the Loxahatchee Refuge.

Want to increase your chances of winning? Select photos from less visited parts of the refuge – explore beyond the Marsh Trail. Get tips and have your photos critiqued during a special workshop on Taking Award-winning Photographs. John J.

Lopinot, The Palm Beach

Post's Deputy Director for Photography, will once again offer this popular session on Sunday, October 12, 2003, at 2:00PM. Bring up to five slides or 8X10 or 11X14 prints for the critique. Call the Refuge Visitors Center at 561-734-8303 for reservations.

A complete set of rules and regulations are also available at the Visitor Center or on the Refuge web site at [Loxahatchee.fws.gov](http://Loxahatchee.fws.gov).



### Refuge Hours & Fees

The refuge is open to the public from sunrise to sunset daily. Exact times are posted at each entrance on our website and change with the hours of daylight. Currently the refuge opens at 6:00AM and closes at dusk.

The Visitor Center will be closed on Mondays and Tuesdays in September. Winter hours for the Visitor Center which begin on October 6th are Monday through Friday, 9:00AM to 4:00PM and Saturday and Sunday from 9:00AM to 4:30PM

A fee of \$5.00 is charged to private vehicles entering the refuge. When the fee booth is unmanned, visitors are subject to the honor system and should pay at the fee shelter next to the fee booth.

## Loxahatchee Events Schedule

### A REFUGE FOR THE SOUL Photographic Exhibit to Grace Visitor Center Walls October 6 – December 27, 2003

For three women photographers, the Refuge is a sanctuary; a place where, surrounded by the beauty of nature, spirits are nourished and peace is found. Diane Cappella, uses the light of early morning and late day to capture the mood of nature. Linda Mathison looks to form, color, texture, and motion to inspire viewers and Cindy Bartosek enjoys finding the unexpected and subtle beauty of the Refuge to portray the extra ordinary in the ordinary. For all three, the Refuge offers a diversity of opportunities that few other places can match – wide open spaces along the Marsh Trail, a fascinating swamp walk, birds and butterflies and a variety of flowers and interesting plants. Come to the Visitor Center to view the Loxahatchee images that stir the soul.

### National Wildlife Refuge Week – October 12 – 18, 2003

The second week of October is observed annually as National Wildlife Refuge Week. President Theodore Roosevelt established Pelican Island, Florida, as the first National Wildlife Refuge in 1903. Come celebrate 100 years of our National Wildlife Refuge system (over 540 refuges strong) as we present walks and programs to honor our heritage of these special lands and waters.

#### **Sunday, October 12**

##### **SWAMP STROLL**

1:00PM            Visitor Center  
Enjoy the beauty of a cypress swamp from a half-mile long boardwalk trail. Learn about “swamp tea,” floating plants, and thigmotrophism as a naturalist reveals the swamp’s secrets to visitors.

##### **PHOTOGRAPHY WORKSHOP**

2:00PM            Visitor Center  
Photographer John J. Lopinot provides valuable instruction on how to take award-winning nature photographs. Participants are encouraged to bring five slides or prints for critique. **RESERVATIONS REQUIRED**

#### **Saturday, October 18**

##### **EARLY BIRD SPECIAL**

7:30AM            Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

##### **CANOEING THE EVERGLADES**

8-10:00AM        Headquarters Boat Ramp  
Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended. **RESERVATIONS REQUIRED**

##### **“ALL ABOUT NATURE” WALK**

10:00AM            Marsh Trail  
Join a naturalist for a discovery tour of the plants and critters who call the refuge home.

##### **INVASIVE PLANT CLINIC**

2:00PM            Visitor Center  
Plant ecologist Chris Lockhart will talk about Palm Beach County’s Invasive Pest Plant Ordinance, explain how it can help save our native wildlife, and show what native alternatives are available. A drawing for free plants will be held for participants.

## Loxahatchee Events Schedule November 2003 through February 14, 2004

### Wednesday, November 5

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Saturday, November 8

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

#### CANOEING THE EVERGLADES

8-10:00AM HQ Boat Ramp

Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended. RESERVATION REQUIRED

### Sunday, November 9

#### CHILDREN'S STORY AND CRAFT HOUR

2:00PM Visitor Center

Join a naturalist for a children's story and craft session to follow. Open to children five to eight years old. Children must be attended by an adult. RESERVATION REQUIRED

### Wednesday, November 12

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Saturday, November 15

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

#### BUTTERFLIES AND WILDFLOWERS

10:00AM Visitor Center  
Parking Lot

Join a volunteer naturalist for a walk to view these small wonders of the refuge.

### Sunday, November 16

#### SWAMP STROLL

2:00PM Visitor Center

Enjoy the beauty of a cypress swamp from a half-mile long boardwalk trail. Learn about "swamp tea," floating plants, and thigmotropism as a naturalist reveals the swamp's secrets to visitors.

### Wednesday, November 19

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Saturday, November 22

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

#### CANOEING THE EVERGLADES

8-10:00AM HQ Boat

Ramp

Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended. RESERVATION REQUIRED

### Wednesday, November 26

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Thursday, November 27

#### THANKSGIVING DAY

Visitor Center will be closed. All trails will be open.

### Saturday, November 29

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Sunday, November 30

#### "ALL ABOUT NATURE" WALK

11:00AM Marsh Trail

Join a naturalist for a discovery tour of the plants and critters who call the refuge home.

## Loxahatchee Events Schedule November 2003 through February 14, 2004

### **21<sup>st</sup> ANNUAL PHOTO CONTEST**

Entries can be mailed or delivered in person to the refuge Visitor Center between December 1 – 20, 2003. Information, contest rules, and entry forms will be available in the Visitor Center.

### **Wednesday, December 3**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Friday, December 5**

#### **AMPHIBIANS OF THE REFUGE**

2:00PM Visitor Center

Join Biologist Kristina Sorensen for interesting facts about frogs and other amphibians found on the refuge.

### **Saturday, December 6**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **LILA – WHAT IS IT & WHAT'S GOING ON**

2:00PM Visitor Center

Just what is LILA and how is it critical to Everglades restoration. Find out about this project and how visitors can see it for themselves. South Florida Water Management District Site Manager Eric Cline explains and gives updates on this one-of-a-kind research.

### **Wednesday, December 10**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Saturday, December 13**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **CANOEING THE EVERGLADES**

8-10:00AM HQ Boat Ramp

Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/ rain protection, and insect repellent. Some canoeing experience is recommended.

**RESERVATION REQUIRED**

### **Sunday, December 14**

#### **SWAMP STROLL**

2:00PM Visitor Center

Enjoy the beauty of a cypress swamp from a half-mile long boardwalk trail. Learn about “swamp tea,” floating plants, and thigmotrophism as a naturalist reveals the swamp’s secrets to visitors.

#### **SUNSET BIRDING**

4:00PM Marsh Trail

Late-day sightings may include night herons, and snail kites coming home to roost. Bring binocular, field guide, and insect repellent.

### **Wednesday, December 17**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Saturday, December 20**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Wednesday, December 24**

#### **EARLY BIRD SPECIAL**

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

The first refuges for big game animals were Wichita Mountains National Wildlife Refuge(OK)-1905; National Bison Range(MT)-1908; and National Elk Refuge(WY)-1912.

## Loxahatchee Events Schedule November 2003 through February 14, 2004

### Thursday, December 25

#### CHRISTMAS DAY

Visitor Center will be closed.  
All trails will be open.

### Saturday, December 27

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

#### CANOEING THE EVERGLADES

8-10:00AM HQ Boat Ramp

Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended. RESERVATION REQUIRED

### Sunday, December 28

#### "ALL ABOUT NATURE" WALK

11:00AM Marsh Trail

Join a naturalist for a discovery tour of the plants and critters who call the refuge home.

### Wednesday, December 31

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Thursday, January 1

#### HAPPY NEW YEAR!

The Visitor Center and trails will be open.

### Saturday, January 3

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Sunday, January 4

#### SUNSET BIRDING

4:00PM Marsh Trail

Late-day sightings may include night herons, and snail kites coming home to roost. Bring binocular, field guide, and insect repellent.

### Wednesday, January 7

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### Saturday, January 10

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent

#### CANOEING THE EVERGLADES

8-10:00AM HQ Boat Ramp

Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended. RESERVATION REQUIRED

### Sunday, January 11

#### CHILDREN'S STORY AND CRAFT HOUR

2:00PM Visitor Center

Join a naturalist for a children's story and craft session to follow. Open to children five to eight years old. Children must be attended by an adult. RESERVATION REQUIRED

### Wednesday, January 14

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

#### NIGHT PROWL

7:30PM Visitor Center

Experience the refuge after dark. See the creatures that come out after the sun sets. RESERVATION REQUIRED

### Saturday, January 17

#### EARLY BIRD SPECIAL

7:30AM Marsh Trail

This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent

### Sunday, January 18

#### ART CONTEST RECEPTION

1PM-3PM Visitor Center

A public reception for artists displayed in this year's show. Refreshments provided by the Friends of Loxahatchee Refuge.

## Loxahatchee Events Schedule November 2003 through February 14, 2004

### **Wednesday, January 21**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Friday, January 23**

**WILDLIFE INVADERS**  
2:00PM Visitor Center  
What effect does exotic wildlife have on the refuge? Biologist Bill Thomas reveals the threat of exotic animals and discusses what strategies are used to manage them.

### **Saturday, January 24**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **CANOEING THE EVERGLADES**

8-10:00AM HQ Boat Ramp  
Take a journey through the Everglades with an interpreter on our canoe trail. Bring canoe, PFD, water, sun/rain protection, and insect repellent. Some canoeing experience is recommended.  
**RESERVATION REQUIRED**

### **Sunday, January 25**

**“ALL ABOUT NATURE”  
WALK**  
11:00AM Marsh Trail  
Join a naturalist for a discovery tour of the plants and critters who call the refuge home.

### **SWAMP STROLL**

2:00PM Visitor Center  
Enjoy the beauty of a cypress swamp from a half-mile long boardwalk trail. Learn about “swamp tea,” floating plants, and thigmotrophism as a naturalist reveals the swamp’s secrets to visitors.

### **Wednesday, January 28**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Friday, January 30**

**WILDLIFE AROUND US**  
1:30PM Visitor Center  
Debbie Fritz-Quincy of the Hobe Sound Nature Center will give us a live look at some of Florida’s native animals.

### **Saturday, January 31**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Sunday, February 1**

**SUNSET BIRDING**  
4:00PM Marsh Trail  
Late-day sightings may include night herons, and snail kites coming home to roost. Bring binocular, field guide, and insect repellent.

### **Wednesday, February 4**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Saturday, February 7**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Wednesday, February 11**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **Saturday, February 14**

**EARLY BIRD SPECIAL**  
7:30AM Marsh Trail  
This one-mile walk is for the birds and the early risers. Bring binocular, field guide, and insect repellent.

### **EVERGLADES DAY**

8:00AM – 4:00PM  
The day’s events include birding, family walks, hands-on activities, music, food, children’s activities, exhibits, and live programs. Contact the Visitor Center for more information.

## “Putting Faces to Names”

*by Mindy Gautreaux*

### Kristina Sorensen, Refuge Biologist

Kristina has been with Loxahatchee since



January 2003. She comes to us from the U.S. Geological Survey where she worked as a SCEP (Student Career Experience Program) student during her graduate program at the University of Florida. Kristina is a native Floridian, and

while at Loxahatchee, she has spent the majority of her time managing the Compartment C Impoundments for wildlife. Her long term goal is to be a lead refuge biologist. In her spare time, Kristina enjoys playing with her Rottweiler, “Bandit”, watching football, and traveling.

### Jennifer Hinckley, Prescribed Fire Specialist

Jennifer began working as the new Prescribed



Fire Specialist for Loxahatchee on August 25. She comes to us from Florida Division of Forestry in Brooksville, Florida, where she worked previously as a Silviculture Unit Manager. Jennifer is a native Floridian and also attended the

University of Florida. In her spare time, Jennifer enjoys taking her German Shepherd, “Trooper”, for walks, dancing, and traveling. Welcome on board Jennifer!

### George Pelt, Exotics Laborer

George began work at Loxahatchee in May of this year. A native Floridian, George and his family moved from the Tallahassee area to Loxahatchee to join the refuge Exotics Crew. George is also a very skilled mechanic and often



assists Manny in the shop with routine maintenance and emergency repairs on refuge vehicles and airboats. Along with his mechanic skills, his high energy spirit is a welcome addition to the Loxahatchee team.

### Please Join Us

• **Membership Application** •  
**Friends of the Arthur R. Marshall  
 Loxahatchee National Wildlife Refuge**

- |   |   |
|---|---|
| <input type="checkbox"/> Individual \$15.00 | <input type="checkbox"/> Student (to age 18) \$5.00 |
| <input type="checkbox"/> Family \$25.00     | <input type="checkbox"/> Supporting \$50            |
| <input type="checkbox"/> Organization \$100 | <input type="checkbox"/> Contribution _____         |

Please mail this form to:  
 Friends of the Loxahatchee Refuge  
 P.O. Box 6777  
 Delray Beach, FL. 33482-6777

Make checks payable to:  
 “Friends of the Loxahatchee Refuge”

If paying by credit card please indicate:

\_\_\_ Visa    \_\_\_ MasterCard    \_\_\_ Discover  
 Credit Card # \_\_\_\_\_  
 Expiration Date \_\_\_\_\_  
 Signature \_\_\_\_\_ Phone \_\_\_\_\_  
 Name (please print) \_\_\_\_\_  
 E-Mail \_\_\_\_\_  
 Street \_\_\_\_\_ City \_\_\_\_\_  
 \_\_\_\_\_ Zip \_\_\_\_\_

For further information about the Friends of the Refuge please contact:

Arthur R. Marshall National Wildlife Refuge  
 10216 Lee Road  
 Boynton Beach, FL 33437-4796  
 (561) 734-8303 or (561) 732-3684

## “Bad Boys, Bad Boys, Whatcha Gonna Do” Loxahatchee and Hobe Sound’s Law Enforcement Officer’s

by: William Calvert, Refuge Officer



**Reif Smith,  
William Calvert,  
and Sean  
Cottingham (left  
to right)**

You say you never see a cop when you need one. That’s because these guys are out working all day and night, all over the place. From Loxahatchee to Hobe Sound and beyond, three full time law enforcement officers, plus one collateral duty officer and another full time officer on the way, keep the peace and protect both visitors and wildlife from the threats of our modern society. They work long, hard hours, are up before the sun rises and are out way past your bed time, while also being on call 24 hours a day. These guys write citations, make arrests and investigate violations and crimes such as poaching wildlife and plants, feeding and disturbing alligators, drugs, thefts, driving and boating while intoxicated, fishing, responding to alarms and yes, even speeding. They perform search and rescues when visitors are lost or in need of assistance. They even work off refuge lands enforcing federal wildlife laws such as manatee protection zones and sea turtle egg poaching and they provide assistance to other law enforcement agencies and refuges. Watch out, these dudes are full fledged federal law enforcement officers.

### **William Calvert, Lead Law Enforcement Officer**

Officer Calvert has been stationed at the refuge

complex since September 1998. He was hired as the lead officer and he directs the law enforcement program for both Loxahatchee and Hobe Sound refuges, one of the largest and most complex programs in the southeast. Officer Calvert came to the U.S. Fish & Wildlife Service from the National Park Service where he was a law enforcement Ranger for five years at many different national park sites including Independence National Historical Park in Philadelphia, the Blue Ridge Parkway in Virginia, Cape Hatteras National Seashore on the Outer Banks of North Carolina and Wright Brothers National Memorial. He received his law enforcement training at the National Park Service seasonal law enforcement academy in 1993 and attended

the Federal Law Enforcement Training Center in Georgia in 1999. He is responsible for law enforcement activities, liaison with the federal court system and other federal and state agencies, case management and reporting, and evidence. He prefers to work nights, when the bad guys are out, and loves to stay on the water. He patrols the refuges in 4X4 vehicles, boats, airboats and ATV’s and spends many days preparing for and testifying in federal court.

### **Jared Klein, Law Enforcement Officer**

(not pictured)

Officer Klein came to the refuge in 2002 from the National Park Service where he was a seasonal Park Ranger. Jared is currently undergoing training at the Federal Law Enforcement Training Center and we are looking forward to his return to full duty.

### **Shawn Cottingham, Law Enforcement Officer**

Officer Cottingham began working at Loxahatchee in December 2002 when he was hired as a full time seasonal law enforcement officer. Shawn came to the U.S. Fish & Wildlife Service from the Mayport Naval Station in

Mayport, Florida, where he was a civilian police officer. Prior to his stint at the naval station, he was a police officer in Washington D.C. with the U.S. Capitol Police and served as an infantryman in the U.S. Army, stationed in such exotic places as Central America and Europe. Officer Cottingham spends his "day" patrolling the refuges looking for violations and ensuring the safety of both visitor and animal alike and is an asset to the refuge and Service.

### **Reif Smith, Law Enforcement Officer**

Officer Smith began patrolling the lands of Hobe Sound NWR and Loxahatchee in May 2002. He came to the U.S. Fish & Wildlife Service from the U.S. Border Patrol, where he worked as a Border Patrol Agent in Ajo, Arizona. Prior to his stint on the border, he was a paratrooper with the 82<sup>nd</sup> Airborne Division of the U.S. Army. Officer Smith is primarily assigned to Hobe Sound refuge but spends many nights on the beat at Loxahatchee. Officer Smith just graduated from the Federal Law Enforcement Training Center and is undergoing 10 weeks of field training with Officer Calvert and an officer at the Florida Keys refuges. When done, he will be fully commissioned and a vital and welcome part of the law enforcement program.



**Rolf Olson, Deputy Project Leader and Law Enforcement Officer**

Rolf Olson became the new Deputy Project Leader on December 1, 2002. Rolf is responsible for day-to-day operations of the refuge, and also serves as a collateral duty law

enforcement officer. Rolf has 16 years of federal government service, including 13 years with the U.S. Fish and Wildlife Service. He has worked previously as a Forester at St. Marks NWR in northwest Florida; as the Refuge Operations Specialist at Chassahowitzka NWR in west central Florida; and as the Deputy Project Leader at Carolina Sandhills NWR in South Carolina. Rolf is originally from northeast Arizona, but has decided to make South Florida a home for he and his wife, and their two daughters.

### **New Spotting Scope For Marsh Trail Tower**

Visitors will now have a chance for an up-close view of wildlife on the Marsh Trail as well as in several of the other nearby impoundments in Compartment C. A spotting scope has been placed in the tower for visitors to enjoy getting a closer look into the Refuge impoundments and the on-going LILA project. The scope was made possible by donations made to the Refuge in memory of Jackson Sloan. Mr. Sloan had been a long-time visitor to the refuge and loved its serenity and wildlife.



If you would like to make a donation to the refuge in memorium, you may do so by contacting The Friends of Loxahatchee National Wildlife Refuge at 561-734-8303 or write to: Friends of Loxahatchee Refuge, PO Box 6777, Delray Beach 33482-6777.

**Which state contains the most National Wildlife Refuges? North Dakota has the most refuges, 63, covering 295,780 acres.**

## Spores Galore

by Allison Snow - USGS Biological Technician

Refuge staff and volunteers alike work hard to keep it out of view in the public use areas, but it is a battle, constantly creeping up in the cypress swamp, impoundments, and roadsides. In the interior it is a far different story, tree islands are being invaded, smothered, and killed by this voracious pest. The culprit, *Lygodium*

carried on the wind an unusual device is being employed - a volumetric air sampler. These devices are usually used for pollen/allergy counts, they intake a fixed volume of air and impact the particles [in the air] on sticky tape. The tape is then analyzed and the number of *Lygodium* spores are totaled up for the sampling period. To ascertain how far the spores are moving from the "source" (the dense northern infestation) one air sampler is set up next to very densely infested areas. The second trap is



*microphyllum* is its proper name but commonly goes by Old World climbing fern. A true fern, the *Lygodium* genus is the only group with a climbing habit as anyone who has observed it

knows all too well.

*Lygodium* reproduces via tiny spores carried across South Florida on the balmy breeze. These spores seem to have an affinity for moist, damp, soggy areas with a bit of shade - so the refuge's tree islands and cypress swamp are particularly vulnerable. Once established, *Lygodium* sends out a thin wiry rachis that quickly climbs up and eventually smothers the tree canopy, in the worst cases trees topple under the weight of the growing *Lygodium* "sweater", all the time reproducing at an astronomical rate - a single leaflet can produce 20,000 spores!!

The largest affected areas at the refuge are located in the north central interior, with areas

in the south lightly infested or unaffected. To understand at what rate *Lygodium* will spread from the northern end to the south and understand the risk, USGS and refuge biologists are looking at the dispersal range (how far the majority of the spores are moving from the source) of *Lygodium* spores. Since these tiny microscopic spores are



placed, for 1-week intervals, at 1 km increments away from the edge of the infestation. This gives us a concentration of spores at a known distance from the "source" to compare to the number of spores trapped in densely infested areas. From these numbers researchers can determine what fraction of the spores are traveling a given distance from the "source". When all is said and done, by better understanding the rate and range of spread, we can more effectively combat this exotic pest plant.



**Agassiz Refuge (Minnesota) was the first refuge to have a resident pack of gray wolves in the lower 48 states.**

## Kids Corner

### Annie's Big Adventure

Story by Chrissanna (gator) Srdoch - University of Florida

Artwork by Frank Lohan



*Remember our little Annie? On that dark and stormy night during hurricane Irene, she was blown from her warm and cozy nest, AND HER MOMMY! Now she must search Loxahatchee Refuge to find her mommy. So far she has met Ally the Alligator and Otto the Otter.*

***Mercy!! What will happen to poor little Annie next?***

Annie decided to try looking for her mother in the garden when she came upon a small colorful creature. "Pleased to meet you," said Bertha as she fluttered lightly in the air above Annie's face. "Um Hi??" said Annie, "I'm looking for my mother, she can be seen on a branch with her wings spread out, are you her?" "Well," replied Bertha, "I do spread my wings out, but you don't look much like me, so no, I don't think I'm your mother. I am a butterfly, you aren't. Your mother is skinny and is often mistaken for a snake swimming through the water by those humans who like to watch the animals." This information pleased Annie, she may not yet know who her mother was, but at least she knew that her mother was often mistaken for a snake, had wings, could fly, and ate fish. And Annie continued on her search for her mother.

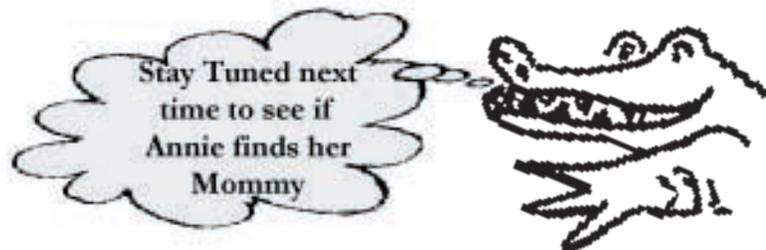


Pretty soon she saw a grayish tail poking out from under some bushes near a really tall building. It looked kinda like a tower, and there were people looking out of it. "Could the animal be her mother?" Annie thought. Carefully she approached the gray tail said "Excuse me Miss, are you mother?" Annie said. She was surprised to see the dark mask on the animal's face! Highly amused, the animal said, "Hi I'm Rocky the Raccoon. You



must have seen my tail, when your mother swims through the water she does look a little like that. If you want to find your mother, you should probably look over by the water when she can be found sitting on a branch. Look for a bird with a straight beak that can catch fish underwater." "Wow thanks," said Annie, and she went to find the water.

Thrilled at the thought of finally finding her mother, she began to hurry. Will she find her mother soon?



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
A.R.M. Loxahatchee National Wildlife  
Refuge  
10216 Lee Rd.  
Boynton Beach, FL 33437-4796

