



Corkscrew
Swamp Sanctuary

Along the Boardwalk

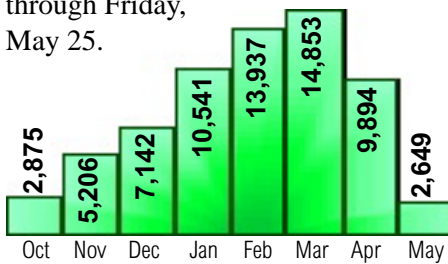
June, 2007

www.corkscrew.audubon.org

Attendance figures mirror migration

Attendance figures for the 2006-2007 season match what we already know: our pleasant winter weather attracts visitors as well as wildlife.

Figures below represent paid attendance but do not include tuition groups such as FGCU (about 1,000 students in April, for example), school field trips, Discover Corkscrew, or other special programs. May figures are only through Friday, May 25.



Donations increase sanctuary equipment

People are continually finding new ways to support Corkscrew.

We are familiar with corporate matching funds, but Sharon and Dick Stilwell introduced us to a new type of contribution. Sharon's employer, The Meredith Corporation, matched volunteer hours with a monetary donation, which funded the purchase of a new waterproof Bausch & Lomb Elite spotting scope with tripod and one new radio, both for use on the boardwalk.

With the encouragement of intern Katherine Parfitt, Sunsplash Market made a contribution of over \$500 to education supplies from a portion of its Earth Day sales. The grocery is located at Neopolitan Way and US 41.

What is it?

What are those little white things growing on the tips of bald cypress needles?

In late May, small white nodules began appearing toward the tips of bald cypress branches, with the cypress needles growing through them.



Insect eggs? Galls? Do they harm the tree?

No to all of the above. The growths are the beginnings of cones of the cypress trees.

Watch a particular needle/growth over a short period of time. The cones begin small, hard, and white. Then, they turn a yellowish color, then turn green, and finally assume the shape of the cones.

Quick ID Guide: Looking at leaves to identify plants

Guide 1: Saw Palmetto vs. small Cabbage Palm trees

Look at the base of the leaves (fronds) where the stem ends.

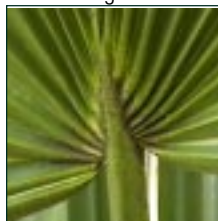
The Saw Palmetto stem ends at the base of the leaf in a squarish stub. The leaf fans out from that point.

The Cabbage Palm stem extends into the leaf and comes to a point in the leaf.

Also, the tips of the Cabbage palm leaves have small, fine "hairs" that hang loose and curl around. The Saw Palmetto doesn't.

Saw Palmetto

Cabbage Palm



Guide 2: Bald Cypress trees vs. Pond Cypress trees

Bald Cypress and Pond Cypress are two distinct trees, but it can be confusing because they can hybridize.

When both have dropped their needles, two educated guesses are possible, but neither is foolproof.

First, the bark. Pond Cypress bark is more deeply ridged while that of the bald cypress tends to be smoother.

Second, location. Only Bald Cypress grow deep in the forest, and the trees are spaced far apart. The reverse is not true at the edges of the forest. Both cypress trees grow in close proximity to other cypress trees.

It's easier when they have needles. Needles of the Bald Cypress are opposite on the main stem, giving a feathery appearance, *top photo*.

Needles of the Pond Cypress swirl

around the stem, giving more of a pine needle look, *bottom photo*.



In Case a Visitor Asks

How do you read the Stevens Gauge?

The answers are simple but probably a bit confusing at the same time.

The gauge logs for about one month (32-33 days), but due to variations in battery power, the one-month travel time across the graph may take the entire width of the paper or just a half page. Each square is not a set time.

Readings manually record the distance from the base of the gauge housing to the water line inside the pipe. Readings are taken at the beginning of each month when the paper is changed and give just the changes in water levels. Then fluctuations that occur be-

tween start and end times must be interpreted using a digital analyzer. Each vertical square is not a set distance.

The Stevens Gauge operates on a simple pulley system - there's a float on one side and a counter weight on the other - to monitor water level changes. The PVC pipe itself goes down several feet, but inside the pipe only goes down about a foot below ground level before it hits mud.

No other conservation agency uses these old Stevens Gauges any more; digital recorders have taken over. There is a program for scanning and analyzing the graphs, but it no longer works due to outdated software and computer incompatibility. Since the graphs can no longer be analyzed, the Stevens

Gauge is now just an educational tool.

However, volunteer readings of the staff Gauges A and B, recorded each day by volunteers are VERY valuable. This data (from 1954 until present) is run through a series of statistical analyses to determine effects of rainfall and water levels on stork nest initiation, productivity of stork nesting (# of chicks hatched), and so on.

Sometime in the near future, a digital water recorder will be installed at the lettuce lake, but the Stevens Gauge will stay in place for educational purposes. Several digital water recorders are already scattered in different locations throughout the back country and allow the charting of hydrologic flow through Corkscrew Swamp.

May Sightings



The female Alligator peers from her den at the dried up north lake on a cool morning (May 8).



A Northern Parula Warbler hunts for caterpillars on Pig Weed growing in the lakes (May 15).



A Swallow-tailed Kite cruises above the trees at the north lake (May 10).

Friends in the Night

*first in a series by Allyson Webb,
Natural Resources Manager*

As night descends, many animals settle in for the night. Others are just beginning to stir.

A variety of nocturnal animals call Corkscrew home, including misunderstood and often feared bats. These fascinating animals, the only mammals with true flight, are our friends in the night skies, hunting for insects such as mosquitoes and numerous agricultural pests. Yet little is known about them.

This series will introduce you to the mysterious and intriguing world of bats with an emphasis on the species found in the Corkscrew area.

All bats belong to the order *Chiroptera*, which means "wing-hand." In North America and South America, all species are members of the suborder *microchiroptera*.

Bats are some of the most successful mammals in the world with regard to diversity and range. Over 1,000 species of bats exist worldwide and account for approximately 20% of the world's mammalian species. They are located on all major continents except Antarctica, and these dynamos can be found in all but the most extreme polar areas and severe deserts.

Food habits range widely; bats can be insectivores, frugivores, nectarivores, carnivores, and sanguinivores.

Corkscrew is likely home to the following insectivorous species of two families:

1) Family *Vespertilionidae*

- Big Brown Bat
- Rafinesque's Big-eared Bat
- Eastern Pipistrelles
- Evening Bat
- Northern Yellow Bat
- Seminole Bat

2) Family *Molossidae*

- Brazilian Free-tailed bat
- Florida Bonneted Bat

These flying mammals are the best natural insect-control around! Each one will be profiled over the next few months. I hope you'll enjoy learning about my favorite mammals!

Frogs and toads are amphibians [class *Amphibia* from the Greek words *amfi* (both) and *bio* (life) because they uniquely live on both land and in water]. Both are cold blooded vertebrates.

Their skin is permeable, or porous, giving frogs and toads the ability to breathe and “drink” through their skin.

Frog and toad life cycles begin with soft permeable eggs laid in the water. Those hatch into aquatic larva with gills (tadpoles), grow legs, and finally transform into adults with air-breathing lungs.

Basic differences between frogs/ treefrogs and toads

Frog

- Smooth skin often appearing moist
- Tend to spend most time near or in water
- Long, hind legs with webbed feet (for leaping and swimming)
- Tend to lay eggs in clusters

Treefrog

- Smooth skin often appearing dry
- Tend to spend most time on plants
- Toe pads (for clinging) and long hind legs (for leaping)
- Tend to lay eggs in clusters

Toad

- Bumpy skin often appearing dry
- Tend to spend more time on land but still need water
- Short hind legs (for walking on land)
- Tend to lay eggs in long chains

The two best keys to identification are location and sound because frogs and toads are not often seen. Below are common physical characteristics. Frog calls are on the following page.

GROUND LEVEL NEAR WATER

Pig Frog– 3.5-6.5 inches; yellow to green to dark brown; usually has splotches regardless of background color; tympanum (hearing organ) larger than the eye on males but same size or smaller on females; the largest frog in SW Florida

Corkscrew's common
Frogs & Toads



A male Pig Frog inflates as preparation to call. Note the size of the tympanum.

Southern Leopard Frog– 2-5 inches; one light stripe running to rear from nose through eye and another below eye; light to chocolate brown with dark brown blotches; found by water's edge or on fallen logs near water; excellent jumper that can leap out 2-3 feet from water's edge

ON GRASSES, SHRUBS, TREES

Green Treefrog– 1.5-2.5 inches; female larger than male; white “racing stripe” down side, often with black border; tympanum greenish to green-brown; found on stems, stalks, branches

Squirrel Treefrog– 7/8-1-5/8 inches; mostly green with yellow around mouth (yellow lips) and under chin; lacks well defined stripe of Green Treefrog but may have pale yellowish stripe; tympanum brown to bronze; found higher on stems, stalks, and branches than Green Treefrogs

Cuban Treefrog– 1.5-5.5 inches; female larger than male; colors range from light gray to dark brown; skin bumpier than other treefrogs; noticeably large toe pads; found on stems, buildings, and branches; secretes toxic substance if handled (*exotic*)



Pinewoods Treefrog– 1-1.5 inches; mostly grayish-brown with slight reddish cast on back; stays in canopies of pine trees but comes down to breed; rarely seen except when mating near bases of trees

GROUND LEVEL IN DRY AREAS

Oak Toad– 0.5-1.5 inches; light stripe from nose down middle of back with dark splotches in pairs on either side of stripe; overall blackish to gray; noticeably bumpy skin; found in dry areas under grass, fallen twigs; smallest toad in the United States

Southern Toad– 1.6-4.5 inches; two noticeable ridges between eyes ending in conspicuous knobs giving a sculptured appearance; usually grayish but red or brown sometimes found; dark spots on skin; skin bumpy; found in dry sandy areas

Narrow-mouthed Toad– 7/8-1.5 inches; unusual body shape with rotund body and narrow head that comes to a sharp-point; color varies from gray to brown; found around or under logs or other ground debris

Greenhouse Frog– 5/8-1 inch; dark brownish-gray with pointed nose; found under logs, debris; a very small frog that can sit on a dime without hanging over (*exotic*)

Frog Trivia

- When frogs swallow a meal, they use their eyes to push the food down their throats, which is why the eyes recede into the head when feeding.
- Most frogs have teeth (a ridge of small cone teeth on the upper edge of their jaws and roof of the mouth); toads do not have teeth.
- When frogs lick their front feet and rub their bodies, they are actually wetting down their skin with mucus to keep the skin moist so they can breathe.

Frog & Toad Calls

Hint: Listen to where the sound comes from and when it's heard as well as what it sounds like.



Pig Frog

GROUND LEVEL IN OR NEAR WATER

<u>sounds like</u>	<u>frog/toad</u>	<u>where most commonly found</u>
loud, low pig-like grunt big rubber band snapping ALARM CALL: single high squeak	Pig Frog	in water or on submerged plants
finger rubbing across balloon	Leopard Frog	at water's edge on ground or logs
ALARM CALL: single high squeak, then "splash"		



Leopard Frog

ON PLANT STEMS, IN TREES & SHRUBS

<u>sounds like</u>	<u>frog/toad</u>	<u>where most commonly found</u>
nasal <i>whank-whank</i> up close like a cowbell from distance RAIN CALL: single high bark	Green Treefrog	on stems, stalks, branches
nasal trill, rises at end	Squirrel Treefrog	higher on leaves, branches
RAIN CALL: like angry squirrel		
rasping snore, descends at end	Cuban Treefrog	on stems, buildings, branches
fast typing, morse code, castanets	Pinewoods Treefrog	very tops of pine trees
single note, like a seal barking	Barking Treefrog	tree limbs, branches; night caller
RAIN CALL: loud barking sound		



Green Treefrog



Squirrel Treefrog

GROUND LEVEL, DRIER AREAS

<u>sounds like</u>	<u>frog/toad</u>	<u>where most commonly found</u>
sheep-like, <i>baah-baah</i>	Narrow-mouthed Toad	around or under logs (eats ants and termites); rain caller
soft, muted cricket-like chirp	Greenhouse Frog	under logs, debris
finger rubbing teeth of comb	Florida Chorus Frog	under logs, debris
marbles clacking together	Florida Cricket Frog	clings to grass blades
tinkling of glass, very high pitched	Little Grass Frog	clings to grass blades
chick-like <i>peep</i> (single tone)	Oak Toad	grass, fallen twigs & leaves; rain caller
in a chorus, loud continuous note		
high musical trill (loud)	Southern Toad	grass, fallen twigs (night caller)
immature crow, <i>kahh-kahh</i>	Spadefoot Toad	grass, near sandy areas



Pinewoods Treefrog



Cuban Treefrog



Southern Toad



Oak Toad



Narrow-mouthed Toad



Greenhouse Frog