



Corkscrew
Swamp Sanctuary

Along the Boardwalk

October, 2009

www.corkscrew.audubon.org

Volunteer survey results, projects

Hearing from almost every volunteer area at Corkscrew, the volunteer survey conducted in the spring generated some good ideas for Corkscrew Swamp Sanctuary.

An overwhelming number of responders wanted something to be done about the condition of the Bunting House. Work done over the summer included replacing the deck and the toilet, repairing the roof, general cleaning, adding more storage space, and repainting the floors.

The survey also identified some materials, training, and coverage needs for the boardwalk naturalist program in addition to administrative suggestions.

Many volunteers indicated an interest in helping in other areas that are in need of improvement.

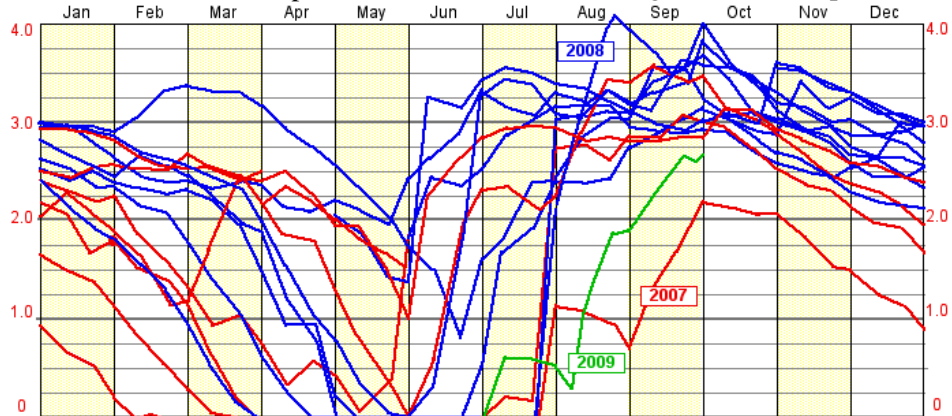
Some of the suggestions have been addressed already, and others will be incorporated in the coming months.

A summary of the survey will be posted on the Bunting House bulletin board.

Water gauge readings, wood stork nesting

The graph below shows water level readings at Gauge B at the north lake taken on the 1st, 11th, and 21st of each month from 1996 to the present.

Blue lines indicate successful stork nesting, red lines indicate unsuccessful years; this season is in green. Numbers at the edges are water depth in feet.



Quick ID Guide: male vs. female Pig Frog

Sizes and colors vary from frog to frog, so look for something that's more constant: the size of the tympanum (the ear drum located just behind the eye).

The female's tympanum is equal to or smaller than the size of the eye, *left*. The male's tympanum is considerably larger than the eye, *right*.

Making plans...

October 17

2009-10 STA-5 Birding tours begin
www.orgsites.com/fl/hgaudubon

October 18-24

Ding Darling Days
www.dingdarlingdays.com

October 23-24

Audubon Assembly (St. Pete)
www.audubonofflorida.org

October 23-November 1

Calusa Blueway Paddling Festival
www.calusabluewaypaddlingfestival.com

December 3

Corkscrew volunteer potluck dinner
contact Sally, sstein@audubon.org

December 19

Corkscrew Christmas Bird Count
contact Sally, sstein@audubon.org

January 16-18

Southwest Florida Birding Festival
www.rookerybay.org

January 20

Corkscrew Corks & Storks dinner honoring Ed's 35 years with Audubon
contact Candace, cforseyth@audubon.org

January 23

Volunteer Work Day at Corkscrew
contact Sally, sstein@audubon.org

March 25

Volunteer Recognition Dinner
contact Sally, sstein@audubon.org

March 25-28

Big O Birding Festival
www.bigobirdingfestival.com

March 27

Volunteer Work Day at Corkscrew
contact Sally, sstein@audubon.org



September Sightings



A Downy Woodpecker excavates a hole over the boardwalk near the start of the trail (Sept. 22).



A Common Buckeye pauses on a fallen pine trunk at the start of the entrance trail (Sept. 11).



Narrow-leaf Sunflowers begin their massive fall display near the wildlife crossing (Sept. 29).

In Case a Visitor Asks

How do fishing spiders, water striders, and other insects walk on water?

There are two implied questions, with two separate answers: first, how do fishing spiders stay on top of the water, and second, how do they move across water.

How do they stay on the surface?

Two related terms help understand the answer to the first question.

Surface tension is the tendency for the surface of a liquid to act like a stretched membrane. That's how a glass can be filled with water so it's just above the rim of the glass.

Cohesion is the attraction of molecules which hold the elements of a body together. Water has the highest cohesive force of any liquid except for mercury. Where air and water meet, water molecules are bonded to one another and to the molecules below the surface. This makes the water behave as though it were coated with an invisible film.

There are two main reasons why certain creatures can walk on water. First, their legs and feet are coated with tiny hairs, reducing the amount of contact with the water's surface. Second, the body weight is so minute that it only creates a dimple in the water's surface.

For the fishing spiders, the hairy legs and feet are "hydrophobic," meaning they resist being wetted. The hydrophobic legs create so much surface tension that they barely touch the water. But because the spider does have a



little weight, its legs make dimples where they do contact the water.

Our body weight is too much for the cohesive forces of the water, and we break through the invisible film that the surface tension creates.

Surface tension and cohesion explain how the spider stays on top of the water, but once the spider is on the surface, how does it move?

How do they move across water?

The second part of walking on water has to do with the relationship between friction and motion.

Friction is the mechanism land creatures use to push themselves forward. A good synonym for *friction* might be *grip*. A lack of friction, or grip, causes us to slip and slide on slippery surfaces. With friction, we don't.

All motion is "action and reaction." Two examples illustrate the concept: (1) *Action*—a jet engine forces burned fuel backwards; *reaction*—the plane zooms forward. (2) *Action*—an automobile tire

pushes the road back; *reaction*—the car moves forward.

Because a spider's legs barely contact the water, there's very little friction possible. And with so little friction, the spider can't really push water backward to start an action-reaction process and move.

But for a fishing spider to race across the water fast enough to escape predators and to catch prey, it must be pushing the water backwards or it couldn't go forward. So how does it manage to do that?

The fishing spider exerts force on the dimples under each of its legs. The dimple then creates drag on the water, which allows each leg to push the water ever so slightly backward, even with the minimal physical contact.

To help overcome the lack of friction, spider movement is more similar to rowing than to walking: the legs (oars) push backward and on the return (forward) stroke, the legs are lifted above the surface. And voila! The spider moves forward.

Small creatures like fishing spiders and water striders have a high ratio of surface area to volume, making them more responsive to forces like surface tension and cohesion; it keeps them above the surface.

As size increases, the surface area to volume ratio decreases, making large organisms more responsive to gravity and inertia; they sink.

Barred Owl

Strix varia



The Barred Owl is widespread in North America, occurring across most of the eastern half of the continent from Florida northward to southern Canada. The northern part of the range is expanding westward.

The Barred Owl is a medium-sized gray-brown owl with a length of about 1-1/2 to 2 feet and a weight of about 22 oz. for males and 28 oz. for females. Wingspan is from 40–50 inches and body length ranges from 17–24 inches. The Barred Owl is named for the feather patterns, which are barred with the alternating colors of white and brown, located on its head, chest and back. There is no difference in plumage between males and the larger females.

The Barred Owl is a resident species and does not migrate. Although many species of owls are strictly nocturnal, the Barred Owl is sometimes active during the day. Their life span can exceed 10 years in the wild, and captive birds have been known to live as long as 23 years. Great Horned Owls are their only natural enemy.

Barred Owls prefer dense moist forests, wooded swamps, and woodlands near waterways. They need a relatively open understory, which is necessary so that they can perch on branches and be able to see, as well as fly, to catch their prey. Pair territories range from 200-900 acres, depending on the availability of suitable habitat and a good prey base.

The availability of perch sites has been found to be an important factor in habitat selection. The most important factor in selection of a breeding territory appears to be the amount of large trees, usually with trunk diameters larger than 20 inches.

The Barred Owl is a very opportunistic hunter, taking whatever is available and within its power to overwhelm. Most of the hunting is nocturnal, but they do hunt during the day, especially during breeding season.

Barred Owls hunt by perching on branches while seeking prey and then diving down for the catch. One hunting behavior is the bobbing of the head while watching prey. The bobbing motion is a vertical movement of the owl's head in an up and down manner, which aids it in determining the distance to the prey.

In its northern range, its diet is mostly small mammals with a good percentage of birds. In southern swamps, the Barred Owl consumes crayfish in greater abundance than small mammals. Bats and large insects are also on the menu., and the owls swoop down into shallow water to catch frogs, snakes, small turtles and occasionally small fish.

This variety of prey illustrates the owl's adaptability to live on whatever food source is available. If the prey is small enough, the owl swallows it whole. If swallowed whole, the owls later regurgitate pellets of the indigestible parts such as bones and fur. Larger prey is carried to a feeding perch and torn apart before eating.

Vocalizations can be heard day or night throughout the year. Males use two different calls. One call sounds like a deep barking call that increases in volume, and ends with a powerful hoot. This call is believed to be a signal of

aggression by the owl. The second call is used to state its territory and to attract mates. This call has a more rhythmic sound or pattern, much like the phrase "Who cooks for you, who cooks for you all." Many other vocalizations are made which range from a short yelp or bark to a frenzied and raucous monkey-like squall. Mates will duet, and the male's voice is deeper and mellower.

In Florida, courtship activities begin in February with breeding occurring in March and April. Males hoot and females give contact calls. As the nesting season approaches, males chase females, giving a variety of hooting and screeching calls. They display by swaying back and forth and raising their wings while sidling along a branch. Courtship feeding and mutual preening also occur.

Barred Owls are mostly cavity nesters but they will use abandoned hawk, squirrel, or crow nests. Two to three white eggs, almost perfectly round, are laid every two to three days and incubation begins with the first egg laid. The incubation period is 28-33 days. During this time, the male brings food to the female while she is on the nest. The Barred Owl is single-brooded but has a long breeding season, which allows for laying of replacement clutches if the first clutch or brood is lost.

When the young leave the nest, at about four weeks, they are not able to fly. They crawl out of the nest using their beaks and talons to sit on branches. They fledge one to two weeks later. Once

they lose their down, there is no difference between adult and juvenile plumage.

Parents care for the young for at least four months, much longer than most other owls. Young tend to disperse very short distances, usually less than six miles, before settling. Pairs mate for life and territories and nest sites are maintained for many years.

