THE BUZZARD BULLETIN

Notes & Information for CREW Trust Volunteers

August-September, 2025 Volume 9, Issue 6

NOTEPAD

Welcome

Welcome to new CREW Trust volunteers **Andrew MacGillivray** and **Cody Callanan**.

Volunteer social

Welcome the new season and get reacquainted with the CREW crew at a volunteer gathering on Friday, October 10, at the Riptide Brewery in Bonita Springs. Watch for information in TiF and emails.

Get wet walk

Depending on sufficient water levels, wet walks with Robin and Trish are planned for the following Wednesdays. Sign up in TiF.

- August 6 and 20
- September 10 and 24
- October 1 and 8

Wildlife blitz

A bioblitz is an organized hike documenting all animals (birds, mammals, reptiles, insects, fish) that inhabit the trails to create a database to track wildlife in the CREW area.

Plans are to host one bioblitz each month, rotating the site among the four CREW trails.

August's citizen science program will be at the CREW Marsh Trails on Friday, August 8, from 9-11 AM. Register in TiF.

Final PUMA count

The first nesting season for the nine Purple Martin nesting gourds by the west lake in FPS has ended.

The nine pairs of martins laid a total of 55 eggs and successfully fledged 15 chicks.

A special thanks to **Ani Dues** and **Malena Sellen** for regularly checking the martin nests and the water gauges in FPS.

Learning opportunities scheduled

Volunteer training

Upcoming hikes at each of the four CREW trails are designed to train volunteer guides and sweeps for the regular CREW hike programs during the 2025-2026 season.

Each hike will go over trailhead information followed by a hike on the trail to talk about the plants and ecosystems that are seen.

Sign up in Track-it-Forward.

- CDT: Thursday, October 9
- FPS: Thursday, November 13
- CMT: Thursday, December 4
- BRS: Thursday, December 11

Summer lectures

The 2025 summer lecture series concludes in September.

Links to information and registration are on the CREW website under "CREW Trust Programs, Register Now."

- Aug. 11: Frogs in Our Wetlands
  Bonita Springs/Estero Realty
- Aug. 21: Understanding Mosquitoes
  Estero Recreation Center
- Sept. 3: Splendid and Vile
  Estero Recreation Center
- Sept. 17: Aquifer to Tap
  Bonita Springs Utilities

Alligator, turtle gender temperature reliant

In most species, sex is determined during fertilization.

Snake and anole gender is determined by chromosomes at the time of fertilization, before eggs are laid.

However, the gender of alligators, crocodiles, and most turtles is determined after eggs are laid.

The temperature of those developing eggs is what decides whether the offspring will be male or female. The term for that is temperature-dependent sex determination, or TSD.

Because reptiles are cold blooded, they cannot incubate eggs with any body heat. Incubation has to be by external means. Turtles dig a hole, lay eggs, fill the hole, leave, and let nature do the rest.

Alligators build a nest which is essentially a large compost pile, lay eggs in that, and guard the nest until the eggs hatch. Heat generated from the rotting vegetation incubates the eggs.

Top: A Chicken Turtle lays an egg by the shell path in BRS (2025). *Bottom:* A female gator guards her nest near Ida's Pond in BRS (2019).

For most turtles, if the eggs incubate below 81°, the turtle hatchlings will be male. If the eggs incubate above 88°, the hatchlings will be female. Temperatures that fluctuate between the two will produce a mix of male and female turtles.

Gender of a baby alligator relies on incubation temperature, too, but the result is the opposite of turtles. Alligator eggs that incubate at 91° and higher will produce males. At 86° and lower, just five degrees difference, the baby gators will be females. Temperatures in between result in a mix of males and females.

Bird trivia…

What color are bluebirds?

Hint: They're not blue!

Bluebirds don't have any blue pigments in their feathers, which are more of a brownish-gray. No bird in the world has blue feathers.

The blue we see is due to the phenomenon called light scattering. The feathers of Bluebirds, Blue Jays, and other so-called "blue" birds contain melanin, which is brown. When light hits these feathers, however, it scatters in a way that makes them appear blue to human eyes.

Hold a blue feather under normal lighting conditions and it appears blue. But if it is held with a light source behind the feather, it is brown. Without the light reflecting back and creating the blue effect, the color is the actual melanin in the feather instead of the scattered blue light.

This is similar to how oil on the ground looks like a beautiful iridescent rainbow due to the way light reflects off of it. But we know the oil is actually a dark brown.

Staying connected

People

Bob Lucius
831-236-5518
rlucius@crewtrust.org

Piper Jones
239-229-1088
education@crewtrust.org

Robin Serne
919-649-7158
robin@crewtrust.org

Trish Schranck
239-657-2253
ee@crewtrust.org

Web sites

www.crewtrust.org
www.trackitforward.com
(hours & events)

The Buzzard Bulletin contains notes and information for CREW volunteers and is emailed six times a year (September, November, January, March, May, July). Dick Brewer, editor.

In case a visitor asks…

Do alligators and turtles shed their skins?

Reptile scales are not like mammal skin cells which are continuously shed. Reptiles need to shed their entire scales and replace them in order to grow.

This process is called *ecdysis*, and it helps them accommodate their increasing size.

Snakes and small lizards such as anoles shed their skins as they grow, but do larger reptiles like alligators and turtles also shed their skins?

The answer is, "Yes!"

Alligators do shed their skin. While it's not as dramatic as snakes which shed the entire skin in one piece or anoles which shed their skin in large flakes, alligators periodically shed their skin in small pieces as they grow. This happens over a period of time rather than all at once so it's not as noticeable.

Turtles also shed their skins. Turtle skin on legs, neck, and head consists of small scales which are shed in tiny pieces, though not as regularly as other reptiles.

Turtle shells consist of small plates called scutes, and these are also shed – more frequently for younger turtles as they are growing, and less frequently for adult turtles.

Why do Green and Brown Anoles eat shedded skin?

Prior to shedding, anoles tend to eat less and be less active.

Shedding can deplete a lizard's nutrient stores, including calcium, vitamins, and minerals. By eating the shed, they can reabsorb some of these lost nutrients

Eating shedded skin also minimizes the risk of being located by predators like snakes which could detect the scent of the shed. By eating it, the anoles eliminate this scent trail.

By the way, frogs also shed and eat their skin. It's shed in in one piece and pushed toward their mouths. Some species do it as often as daily.

Why do turtles spread their legs when they bask?

Turtles are cold-blooded animals, so they cannot control the temperature of their body internally.

The only way they have to raise their body temperature is to bask to absorb warmth and vital UV rays.

While heat is radiated to their bodies from their shells, they often stretch out their legs to collect additional heat. Usually, their feet completely widen out at the same time to increase surface area even more.

As they are about to engage in thermoregulation, their metabolism functions become elevated. As a result, the efficiency of their immune and digestive systems increases.

Another benefit is that they can absorb important UVB rays in sunlight. UVB rays are metabolized into vitamin D3 which is necessary to process calcium which strengthens bones and the shell.

In addition to strengthening the shell, basking reduces algae growth on the shell. A clean healthy shell is less susceptible to bacterial and fungal infections.

In case a visitor asks…

How can spiders walk on water?

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 the water.

HOW DO THEY STAY ON TOP OF THE WATER'S SURFACE?

Two terms help understand the answer to this question.

Surface tension is the tendency for the surface of a liquid to act like a stretch membrane. That's how a glass can be filled with water so it's just above the rim without spilling over.

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 spiders can stay on top of the water.

First, their legs and feet are coated with tiny hairs, reducing the amount of contact with the water's surface.

Second, their body weight is so minute that it only creates a dimple on the water's surface.

Fishing spiders' 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 tie 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 THE 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* is *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 are…

Action– a jet engine forces burned fuel backwards; *Reaction*– the plane zooms forward.

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, so the spider can't really push water backward to enable it to move forward.

But for a fishing spider to race across the water fast enough to escape predators and to catch prey, it must somehow be pushing the water backwards. How can that be?

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 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 water surface. And voila! The spider moves forward.

Small creatures like fishing spiders 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 ratio of surface area to volume decreases, making larger organisms more responsive to gravity and inertia, and they sink.

Spider trivia

Here are fourteen miscellaneous things you may not have known about spiders.

1. Spiders have 48 "knees," eight legs with six joints on each.
2. Spider silk could be used as synthetic muscle according to a researcher at the University of Akron. Adjusting humidity up and down causes the silk to expand and contract with 50 times the punch of the equivalent mass of human muscle.
3. Unlike many sticky things, the glue of orbed web spiders gets stronger in the presence of water; it could prove a useful adhesive for surgery or for underwater engineering.
4. Spider silk is hypoallergenic. It doesn't provoke an immune response in people.
5. On average, people fear spiders more than they fear death.
6. You are more likely to be killed by a champagne cork than by a venomous spider.
7. The male nursery web spider will bring a silk-wrapped insect to a female prior to mating so she will eat the gift instead of him.
8. Thirty-nine species of spiders have been documented on CREW lands.
9. A jumping spider *(Bagheera kipping)* found on acacia trees in Central America and Mexico is mostly a vegetarian.
10. A dusting of talcum powder or a spritz of Lemon Pledge makes a tabletop or other flat surface too slippery for a spider to get any traction.
11. No two spider webs are exactly the same.
12. Although spiders do not have noses or ears, their bodies are covered with tiny hairs that can sense sounds, vibrations, and touch. The hairs can even sense the tiny footsteps of an insect coming closer.
13. Spider silk is an extremely strong material and is, on a weight basis, stronger than steel. A pencil-thick strand of spider silk could stop a Boeing 747 in flight.
14. Dewdrop Spiders and some cobweb spiders eat insects that they steal from other spiders' webs.