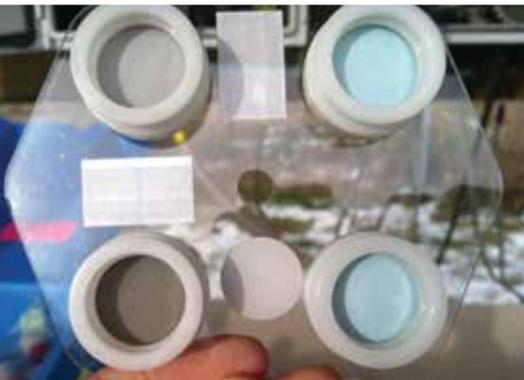




The Gruesome Tales of WISCONSIN'S CARNIVOROUS PLANTS



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FCPC Flies New Flags to Increase Awareness of Air Quality

*By Natalene Cummings,
Air Program Manager*

The FCPC Air Quality Program, with cooperation from Community Health and the FCPC C-stores in Stone Lake and Carter, is starting the Air Quality Index (AQI) Flag Program. Similar to the U.S. Forest Service's fire danger level signs, new flag poles have been installed to advise people working and living in the area of the air quality forecast for the day. Flag poles have been put in front of both C-stores and the Health & Wellness Center.

The displayed air quality flag will represent the color of the day's air quality forecast. Most often you will see the green flag. **Green** means all is good.

Sometimes, particularly on hot sunny summer days or on very cold winter days, when we see some

deterioration in the quality of the air, a yellow flag may be flying. **Yellow** tells us that air quality is moderately compromised and those individuals who are unusually susceptible to small amounts of pollution, including those who easily feel out of breath, such as serious asthmatics or those with COPD or heart disease, should probably take precautions.

More rarely, when air masses tend to hang around for a few days

rather than moving through and dispersing air pollutants, we might see the orange flag flying. **Orange** signals that air quality is unhealthy for all sensitive groups, including the elderly and children, and all members of this group should stay indoors and limit activity. The more active we are, the more breaths we take and the deeper those breaths are. This means the air and any pollutants that are in it go deeper into our



Photo by FCP Natural Resources

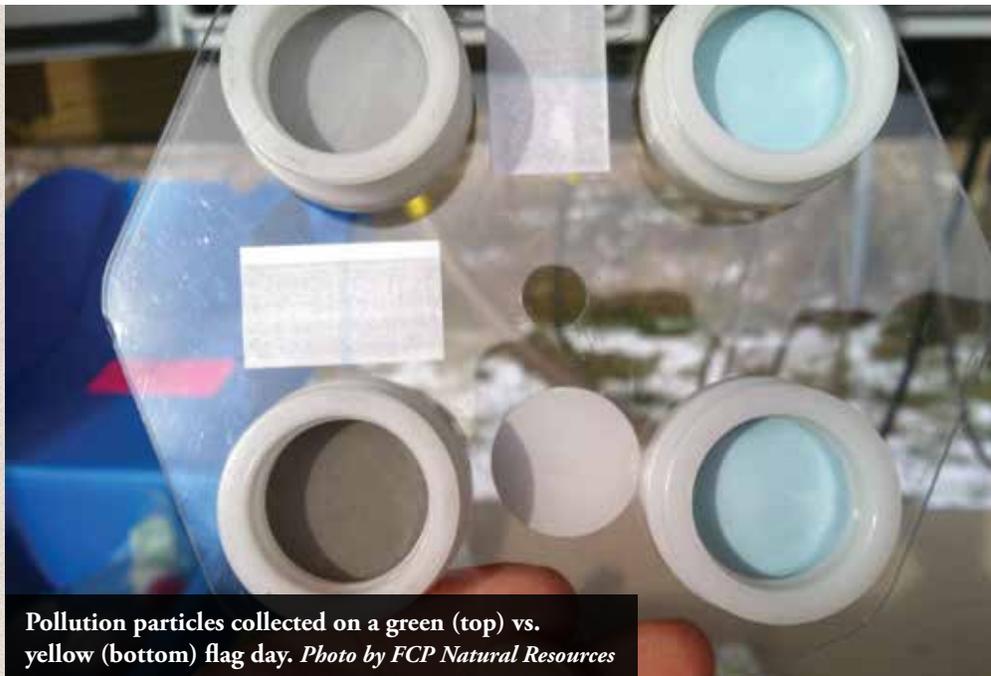
lungs where it is picked up by the blood cells and carried throughout the body. Individuals whose bodies are ailing may be affected by these pollutants. And, because young children have smaller lungs, they breathe more rapidly than adults. With all their running around, they're breathing more deeply, which is cause for them to take in higher levels of pollutants in the air.

While we have not yet seen days that qualify for a red flag here in northeastern Wisconsin, there is the possibility, particularly if there was a large wildfire nearby.

There are many things you can do to help keep pollutant levels down, especially during compromised air quality events, such as driving less, or limiting wood or yard waste burning for a day when conditions for burning are better.

You can check FCPC's Natural Resources webpage for the current air quality or EPA's Air Quality Index Page at www.AirNow.gov. Click on the state of Wisconsin, and then click on the link to Forest County Potawatomi Community to get the local forecasts. There are fun tabs on the page that allow you to see what the forecast for the country/state are, a tab to see what the current air quality is, and a tab to observe how the air quality has changed throughout the day in 20-minute increments. Check it out.

If you have any questions regarding the flags or the air quality program, contact the FCPC Air Quality Program at (715) 478-7211.



Pollution particles collected on a green (top) vs. yellow (bottom) flag day. Photo by FCP Natural Resources

What
COLOR
is Your Air Today?

EPA United States Environmental Protection Agency
EPA-456/F-16-009 February 2016

GOOD
It's a great day to be active outside.

MODERATE
It's a good day to be active outside.

UNHEALTHY FOR SENSITIVE GROUPS
Sensitive groups include people with asthma and all children. If you are outside for hours, take breaks and be less active (less running and jumping).

UNHEALTHY
Take breaks and be less active if you are outside (walk instead of run).

VERY UNHEALTHY
It's a good day to be active indoors.

Learn more about the Air Quality Flag Program!
airnow.gov/flag

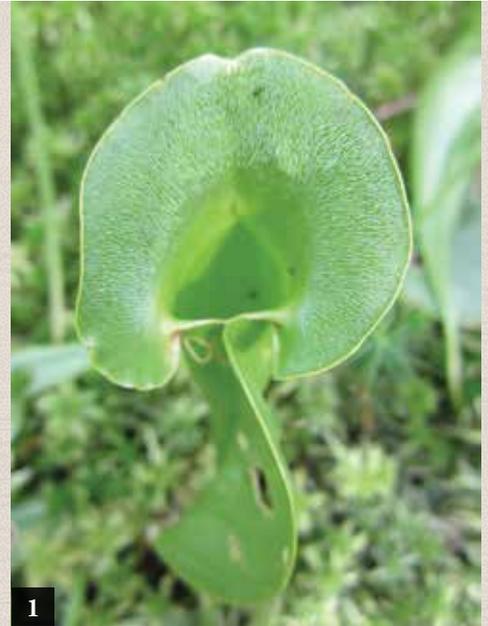
The Gruesome Tales of Wisconsin's Carnivorous Plants

By Chelsey Baranczyk,
Natural Resources Biologist - Botany

We grow up learning that, unlike humans, plants are able to make their own food through a process known as photosynthesis. In this process, plants use energy from the sun to create sugars and oxygen from carbon dioxide and water. These sugars are what the plants use for food and growth, while they release the oxygen back into the environment so we can breathe!

While most plants photosynthesize, there are some plants that live in nutrient-poor environments and must obtain their nutrients through other means. For instance, devouring unsuspecting insects! Carnivorous plants are plants that have adapted interesting ways of catching and digesting their own prey, usually insects. This adaptation allows them to be able to survive in nutrient-poor environments such as acidic sphagnum bogs where other plants are unable to grow.

When talking about carnivorous plants, most people think of the infamous Venus flytrap which has hinged leaves that snap shut on its prey. Although this plant may survive in the windowsill of your house, you are not going to find it growing outside around here. To the right are three types of carnivorous plants in Wisconsin that you may encounter.



Pitcher plants

Pitcher plants are Wisconsin's largest carnivorous plants. This plant grows in the sphagnum of nutrient-poor bogs. Its leaves are shaped like pitchers of water with sweet-smelling nectar that entices insects into it. Once in the pitcher, downward pointing hairs and slick surfaces keep the insect from being able to crawl out. Pitcher plants then use plant enzymes and bacterial-released enzymes to digest their prey and absorb their nutrients.

Sundews

Sundews are attractive, less noticeable plants that grow low to the ground in sphagnum bogs. These carnivores have green spoon-shaped leaves with bright red, protruding glands. Insects that are attracted to the color and sweet smell of the nectar get stuck to the glands and

coated with sticky goo that later suffocates them and digests them via acid and enzymes. The insect's nutrients then get absorbed through the leaf surface.

Bladderworts

Often the least heard about, bladderworts encompass the largest genus of carnivorous plants in Wisconsin and worldwide. Bladderworts are aquatic plants that are quite small in stature and contain small traps, also referred to as bladders, that suck their prey in like a vacuum. The bladders themselves are underwater and quite hard to see, but you can tell these plants are present by the lovely yellow or purple flowers they shoot up above the water's surface in summer. Bladderwort traps are a bit more complex because they are tiny sacs that have flaps that function as doors. The plant forces all air out

of the sac and closes the flap, creating somewhat of a vacuum pressure within. The flap itself has tiny trigger hairs. Whenever anything brushes up against these hairs, the flap swings open and the prey gets sucked in with the flap closing behind them. The water is then released via glands, with the prey remaining inside to be digested.

The world is a fascinating and dangerous place for humans, animals, and insects alike! Everything has to eat, and in a world with so much competition, you may have to get a bit creative with how you catch dinner. Luckily for you, none of these carnivorous plants are large enough to take on a human, but that doesn't mean they're not eying you up!



Photo 1 & 2: Pitcher plant, *photo by FCP Natural Resources*. **Photo 3:** Sundew (also pictured on cover), *photo by FCP Natural Resources*. **Photo 4:** Bladderwort flowers, *photo by Everglades NP, public domain*.

Hummingbirds in Winter?

By Jenni Mabrier,
Environmental Education Coordinator

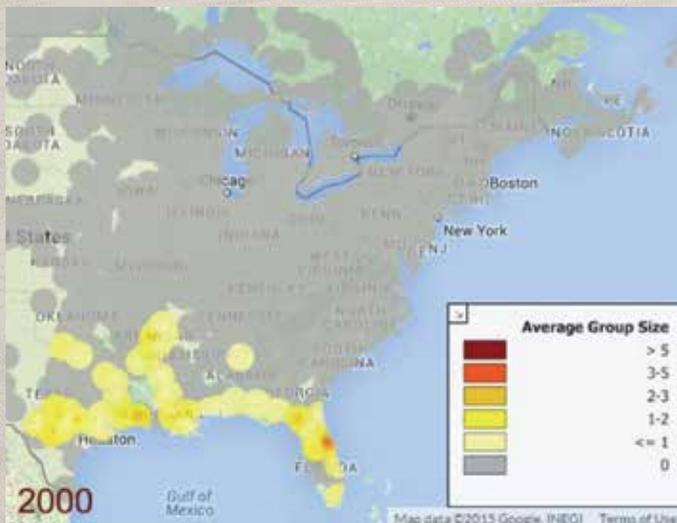


I look forward to it every spring – the day the first hummingbird shows up in my yard. Emerald green feathers sparkle like precious gems, and males show off with a gorgeous deep ruby red throat patch. Even though I’m surrounded by woods, three or four birds always find their way to my yard for the summer. Each fall they disappear, covering hundreds of miles to winter in the warmer climates of the

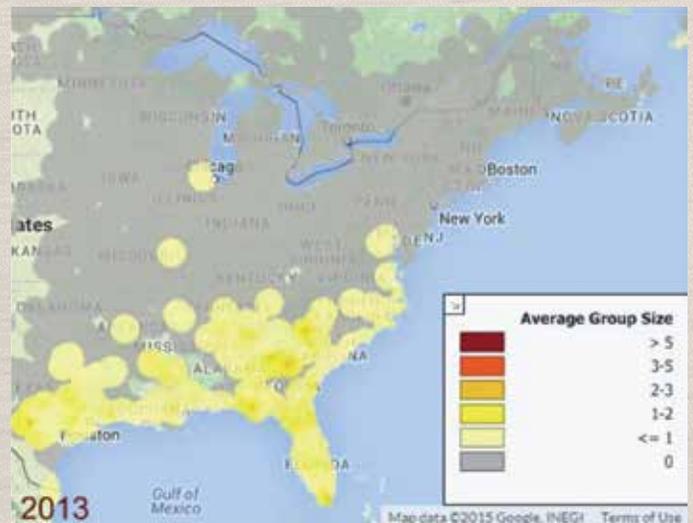
southern United States and Mexico – a mind-boggling distance for a creature that weighs less than a nickel. There may come a day, however, when my summer visitors decide to stay for the winter.

Every winter, Cornell University asks for volunteers around the country to send in a weekly list of the birds visiting their feeders. Cornell keeps track of all those reports and uses it to map out where

birds are spending their winters each year. For ruby-throated hummingbirds, they’re noticing that year after year the birds don’t seem to be going as far south. In fact, birds in 2013 could be found 200 miles north of where they stayed in 2000. If this trend continues, we could see hummingbirds wintering in Wisconsin 30 or 40 years.



<http://feederwatch.org/>



<http://feederwatch.org/>

Lots of Fun at the Preschool!

By Jenni Mabrier,
Environmental Education Coordinator

After having lots of fun last year exploring nature, animals, and plants, I was very happy to be invited back to the preschool for this school year.



Photo 1 & 2: Investigating turkey feathers. Do they help turkeys stay dry?

Photo 3: Building a bird nest is hard work, but this one holds its egg nicely!

Photo 4: Taking turns trying on paper eagle wings. *Photos by FCP Natural Resources*

An Engine For Life - Water Temperature Cycles In Bug Lake

By Ben Koski, Natural Resources
Biologist - Aquatic Sciences

Temperature is the biological engine of a lake. It signals when aquatic life starts to stir in the spring, when it sets the cruise in the summer, and warns life to hurry up in the fall. Then inevitably, it hits the brakes, nearly stopping all activity for the winter.

Water temperature controls how fast plants and animals grow. Fish wait to begin spawning until the water temperature is just right. In the spring, warming waters call insects like mayflies and dragonflies to the surface to begin their summer activities. There are temperature sweet spots where it appears that

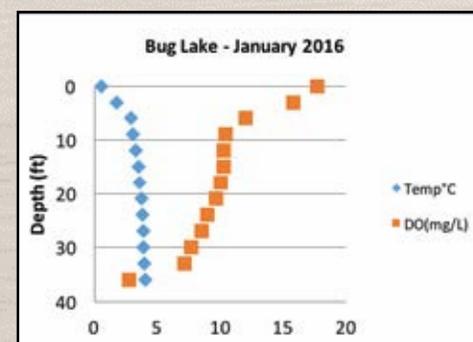
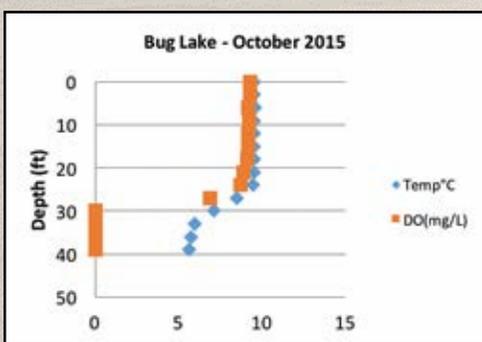
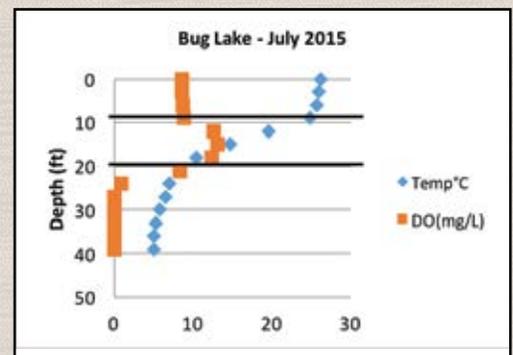
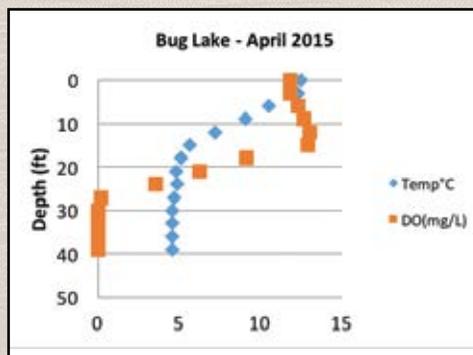
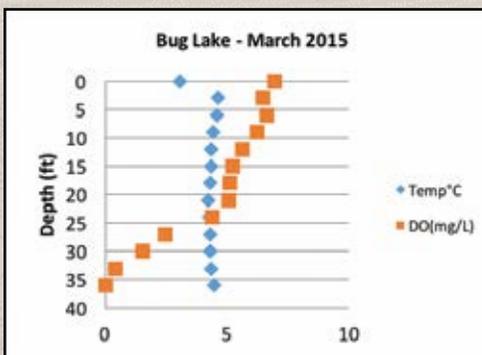
all things are thriving, but also danger zones where life can be in jeopardy.

Take Bug Lake for example. The graphs show the temperature (blue diamonds) and dissolved oxygen (orange squares) measured every three feet from the water's surface down to the bottom of the lake, approximately 40 feet. Like we need oxygen in the air we breathe, fish and other aquatic animals need oxygen dissolved in the water to survive.

During late winter the lake is covered in ice. At this time, the lake is mostly the same temperature from top to bottom, with a slight chill at the water's surface just below the ice. Dissolved oxygen is fairly adequate for life down to 20 feet. The lower third of the lake has very little oxygen.

As spring presses forward, the ice melts. This causes the water near the surface to be colder than the water below it. Even with water, heat rises. The entire water column of the lake starts to mix, often stirring up nutrients stored on the bottom of the lake. The result will sometimes bring a naturally occurring algae bloom that will color the lake for several days. By the time the ice is gone, the surface of the lake has a thin layer of warmer water on top, and there is plenty of oxygen in the upper third of the lake. These are prime conditions for many fish to spawn and feed.

Spring rushes to an end and summer strolls in with warm temperatures. The layer of warm water at the surface begins to grow deeper into the lake. The oxygen



Water temperature cycles in Bug Lake for various months.

levels in this layer decrease. The middle third of the water column becomes a cool refuge for fish and other aquatic creatures. This layer contains the thermocline. The thermocline is a column of water where the temperature changes more than 1°C per 1 meter (3 ft) change in depth. During the warmest parts of the year, this area of cooler water will hold the most oxygen. Fish are going about their daily routine, often spending much of their time in the middle layer of the lake, and venturing to the warmer surface layer at dawn and dusk to feed on things like emerging insects.

The lake once again starts to cool as fall approaches. The surface layer cools slowly and forces warmer water to the surface as the cool water sinks. This causes the lake to “turn over” or mix completely from top to bottom. This process again stirs up stored nutrients sometimes causing another algae bloom.

Fish begin to feed ferociously in the cool water of fall putting on weight to make it through the frigid monotony of winter.

The air masses from the great north ascend on the region and the lake once again gets covered in ice. Water tem-

peratures are mostly uniform from top to bottom. The warmest water for the winter hovers around 4°C. The density of water at this temperature is greatest (heaviest), so it sinks to the bottom of the lake. Many creatures eke out a living under the ice and some even thrive at near freezing temperatures. But if ice and snow cover get too thick, for too long, oxygen in the water can be depleted, making it a perilous situation for fish and other plants and animals. Life waits eagerly for the return of increasing temperatures to signal the start of the cycle all over again.

Bosho Nitthena



Krushna Patil and wife

By Krushna Patil, Energy Specialist

Hello and greetings to the whole FCPC family. This is Krushna Nivrutti Patil, one of your new colleagues. On October 24, I joined FCPC as an Energy Specialist in the Land & Natural Resources Division.

I am humbled to see spirituality and holistically-approached traditions and cultural practices in-place even at the work places here. For me it all reflects on

the greatness of the visionary elders of this great community. I salute and thank them to have provided this opportunity for me and my family to be a part of FCPC. I submit my deepest respect and respectfully seek their blessings.

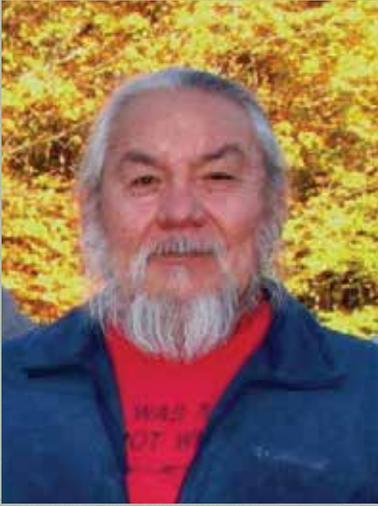
My wife's name is Nilima. She operates an Indian Food trailer (Nilima's) in Stillwater, Okla. (www.facebook.com/NSMS IndianFood). Nilima is known for serving authentic, healthy, fresh and home-styled Indian food. You all will have to wait to try some until July 2017, when she plans to move to Crandon.

Nilima and I are blessed with two beautiful daughters, Mrinalini and Amrita. Mrinalini, the older one, is a medical school student pursuing her MD degree at the University of Oklahoma in Oklahoma City. Amrita, the younger one, is in her senior year for the Management Science and Information Systems (MSIS) degree program at Oklahoma State University. Both are graduating in May 2017. Afterwards, Mrinalini will join her 5-years Surgery residency, while Amrita will pursue her master's degree. All three are excited to

visit beautiful Crandon.

Throughout my professional career of more than 22 years, I have been steadily involved in developing and managing energy efficiency, retrofits, and renewable energy programs. I am very excited and feel blessed to be part of FCPC's efforts toward achieving 100 percent energy independence through sustainable and environmentally sound energy programs.

I look forward to closely working with all of you. If you have any project ideas or thoughts on sustainable energy or energy conservation, please feel free to call or send me an email. I would love to work with you. I believe, together, we will have many great, successful stories resonating with the exemplary vision of FCPC's top management, for sustainable development. Thanks everyone, once again, and I wish you all the very best for the forthcoming holiday season and New Year celebrations.



After 21 Years as Director of the FCPC Natural Resources Department, Lawrence Daniels (Scub) Passes the Torch

Two decades ago when Lawrence came to the Environmental Program (the beginning of what is now the Natural Resources Department), he was one of two staff. Lawrence nurtured and expanded the department to 18 staff working in seven program areas – Air, Botany and Wetlands, Environmental Education, Solid Waste and Recycling, Tribal Historic Preservation, Wildlife, and Water.

If asked, any one of the staff will tell you without hesitation that Lawrence was one of the best, if not THE best, bosses they've ever had. Lawrence trusted his staff in their areas of expertise and encouraged them to think big, try new things, and take calculated risks. His genuine concern for his staff both personally and professionally was evident. As a behind-the-scenes prodder, Lawrence knew how to grow a person, a professional, or better yet, how to empower them to grow themselves. He didn't have to go to any leadership training to acquire those skills. He just had them.

What commanded the respect of anyone is that Lawrence has an innate understanding of the land's

ecology and of how all the different parts live and breathe in unison. This understanding comes from the teachings of his parents and grandparents, years of hands-on experiences, and a very intimate relationship with the land that he was kind enough to share with us through stories.

If Lawrence wasn't in the field checking on things or investigating something that sparked his curiosity, he could be found sitting in the office of a staff member, asking questions about a project, a plant, or a management practice. He was perceived as listening and pondering quietly, but in his mind, Lawrence was connecting everything you were telling him to everything else he knew. Often starting a sentence with "Now, don't forget," or "Now, you gotta remember," was his way of getting you to think creatively and outside the box. He would try to get you to look at the situation not strictly from a scientific point of view, but from a practical one, a cultural one, and a holistic one. He was, in a way, planting seeds to see where you might take them. At the discussion's

end, you were the one left pondering. He probably thinks we were none-the-wiser, never aware of his clever ways, but we were. Those seeds often took root and grew into some pretty amazing accomplishments that made us all the more appreciative of Lawrence for passing this wise practice on to us.

There was a sign that hung in Lawrence's office that read, "Never, never, never give up." He believes in always giving people second chances. His wish is for everyone to grow as individuals and as professionals capable of becoming leaders in the community and carrying the Forest County Potawatomi life, culture, and sovereignty into the future. His greatest legacy is being able to pass the torch of the Natural Resources Department directorship to the next generation of tribal leaders, specifically Frank Shepard Jr., and a growing staff that includes a number of tribal members and tribal youth. It is with the deepest gratitude, admiration, and respect that we wish Lawrence his best years in retirement.

Celeste Schuppler, Tribal Employment Skills Worker

I truly admire the people who work here, the appreciation of the natural world, the love for the environment, the protection of historic property and artifacts, the knowledge and skills that they bring to their sector, and the willingness and desire to educate others.

As a tribal member working within the Tribal Employment Skills program, I have the opportunity to work in the Land & Natural Resource building, mainly helping the Environmental Education Coordinator Jenni Mabrier. Most of the work in the short time that I have been here, so far, has been planning and preparing for half-hour sessions at Gte-Ga-Nēs preschool. We practice developmentally-appropriate activities and learning, which focuses on

engagement of the child, and allows for variation and change based on the classroom and the children. As so many would agree and already know, these children will be in charge of taking care of what we leave to them.

I have learned many things in the brief time that I have been here. While out with Botanist Chelsey Baranczyk, mapping out wetland for a buffer, it amazes me the varieties of plant species on our tribal lands in comparison to areas that have been developed in the past. It must take decades or centuries for some species to come back, if they do at all. As I have searched areas away from tribal lands in my spare time, sadly I do not see that variety of plants.

While working with the Tribal Historic Preservation Officer Mike

LaRonge, I have come to know that the tribe has many areas of interest when it comes to archeological and historic properties. Areas from Ohio state to Forest County could hold historic significance. There is a wealth of information online about Section 106, which requires federal agencies to take into account the effects of their undertakings on historic properties.

All of these different areas in the Land & Natural Resource Department are significant, and I feel are important to the future of our tribe, whether it's protecting our past or protecting our resources. I am so grateful that we have these people and this department to give our tribe a voice.

Caught on Camera!

During the winter, FCP Natural Resources puts out trail cameras to see which carnivores are out and about. Here are a few staff favorites.



CONTACTS/EVENTS



FOREST COUNTY POTAWATOMI
LAND & NATURAL RESOURCES

LNR CONTACTS

Division Director	(715) 478-4192
Fleet	(715) 478-7390
Forestry	(715) 478-4975
Housing	(715) 478-7270
Land Information/GIS	(715) 478-4988
Natural Resources	(715) 478-7222
Roads	(715) 478-7390
Utilities	(715) 478-7390

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UPCOMING EVENTS

SATURDAY JANUARY 2017	14	Bug Lake Fisheree 9 a.m. - 3 p.m.
SATURDAY FEBRUARY 2017	18	Devil's Lake Fisheree 9 a.m. - 3 p.m.
MULTIPLE DATES APRIL 2017		Spring wildflower walks with DEW (Drop Everything and Walk) Stone Lake campus
THURSDAY APRIL 2017	20	Earth Day, Stone Lake C-store 9 a.m. - 3 p.m.
THURSDAY MAY 2017	4	Natural Resources Career Day LNR Building, Stone Lake <i>*Open to FCP youth in grades 9-12*</i>