Summer has arrived!

The Edward L. Rose Conservancy

Dear Friend,
It seems as though the beautiful weather has finally found us. Hopefully, you have had a chance to get out and do some hiking or birding. I have enjoyed a paddle in my kayak on Lake Chrisann. And, of course, I have enjoyed the chance to visit a few properties of landowners interested in protecting their land. We are doing some exciting work at the Conservancy.

One of the most exciting things we'd like to share with you is the launch of our re-designed web site! After a long development process, the new site is finally up and ready for visitors. Just click on the link, www.elrose.org and check out all the information! And be sure to stop back by periodically. We will have announcements of upcoming events as well as current news of interest to our members. Be sure to "like" us on Facebook so we can spread the word as widely as possible!

Happy Summer Solstice,
Kris Ely

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Living With A Conservation Easement

In last month's newsletter, we discussed how long conservation easements last (forever) and the overall impact of an easement on a landowner's life. This month, we're going to discuss just what types of restrictions you might expect to find in an easement. The purpose of a conservation easement is to protect certain natural resources and characteristics on a particular property. Restrictions written into the easement are designed to protect those.

The most common characteristic easements protect is "open space". As cities grow and the suburbs spread, open space begins to disappear. More and more houses begin to dot the landscape. So, the most common restriction found in an easement is a limit on residences. Easements don't necessarily restrict all residences, unless the landowner wants to eliminate house rights, but it may limit the number, size, or type. Generally speaking, easements do restrict apartment buildings. But easements may allow residences for the landowners, farm workers, or guests. In most cases, the allowed residences will be allowed in a building envelope that will be agreed upon by the landowner and the land trust. Building envelopes are established to minimize the impact on the scenic quality of the landscape.

The number of residences allowed under an easement is determined by a couple of factors. First, we ask the landowner how many residences they think they might need in the future. How many children might want to live on the property? Might they need a guesthouse for aging parents? Is the property a farm with a need for farm support housing? All of these possible needs are assessed. We also consider the size of the property. Each new residence may require a subdivision. If the property includes less than ten acres, two residential rights (and subdivided lots) would not represent much protection of the property's natural resources.

So, that is the big question: Residences. How many? What kind? Where? And hopefully, you now have a clearer understanding of the considerations that go in to answering those questions. The answers are based on the needs of the landowner and the characteristics of the property. Next month, we'll take a closer look at some of the other restrictions you might expect to find in an easement, like accessory structures and recreational improvements.

Wild Things In Your Woodland

Common Snapping Turtle (*Chelydra serpentina*)

The common snapping turtle is our largest & most widely distributed freshwater turtle. It has a long stegosaurus-like tail with a jagged upper surface, a stout head with a sharp hooked beak, an olive-green to black carapace that is jagged toward the tail end, & prominent claws on all four feet. These turtles can be large, exceeding 14 inches straight-line carapace (upper shell) length and weighing up to 45 pounds. On the underside, the plastron is yellow or grayish, & quite narrow relative to other turtles, frequently giving the appearance that the turtle has outgrown its shell. Although adult males tend to be slightly larger than females, they can be difficult to distinguish. Male snapping turtles can reach sexual maturity at the age of 4 or 5 years, while females mature several years later. In several studies, average adult life spans of 20 to30 years have been documented, with some females living as long as 40 years.

During the summer months, common snapping turtles often are seen moving from their freshwater habitats to upland areas in search of nesting sites. Once egg laying is complete, these turtles move back into water and can be difficult to spot. Snapping turtles often remain partially submerged in the mud with only their eyes and nostrils protruding above the surface. In this position, their head resembles the head of a basking frog, except darker and more pointed. Unlike other aquatic turtles, snappers seldom bask out of the water. Instead, they usually are only seen with their head and sometimes the upper carapace visible at the surface.

Similar to most turtles, snappers usually do not bite if stepped on underwater, nor do they bother swimmers. In fact, if you do not actually see a snapper, chances are good you will never know it is there. The reason for their name is obvious, however, when encountered on land. Unlike all other turtles in our region, they can be aggressive, and may lunge forward and bite with the slightest provocation (or sometimes just as a warning).

Common snapping turtles can be found in any body of freshwater from sea level to altitudes up to 1600 feet in the Northeast. They occur throughout New York State and Pennsylvania. Although some individuals enter coastal brackish waters, snapping turtles prefer slow-moving freshwater areas, with muddy bottoms and emergent vegetation that provides good foraging and escape cover. The common snapping turtle is an omnivore and eats just about anything. Its most frequent food items are aquatic plants and non-game fish, but it also eats insects, small mammals, young waterfowl, amphibians, and other reptiles. Snappers feed throughout the warmer months, but fast during the winter, remaining dormant and burrowed in the pond bottom or in the banks.

Breeding begins soon after snapping turtles emerge from dormancy in the spring, and mating may take place from April to November. The nesting period for females lasts about three weeks, from May through June, with a peak at the beginning of June. Females prefer to lay their eggs on rainy afternoons and evenings. They generally choose open sites near wetlands, with well-drained sandy or loamy soils. Nesting sites can include forest clearings, agricultural fields, and bare soil banks or road embankments. The nesting female digs a nest chamber with her rear feet and claws, and then fills the underground chamber with eggs. Eggs are spherical and pliable. A single nest may contain from 20 to 40 eggs, exceptionally as many as 83. Successful eggs hatch from September through October. As with many other turtles, the length of incubation can vary by several weeks, depending on location and temperature.

Like many other reptiles, the sex of the hatchlings is determined by temperature of the eggs while they are in the nest. Under warmer conditions (above 85° F), only female turtles are produced; at intermediate temperatures (from 75° to 85° F) males are produced; and in nests colder than that, females are produced. Interestingly, in some nests, the heat of the sun from above causes eggs in the upper nest to be warmer than eggs down deeper. This differential heating creates females near the top of the nest and males near the bottom. Therefore, for sex determination, there is an element of luck involved in whether an egg way dropped into the nest early or late, or in some cases, the way in which the egg bounced as it fell. This environmentally controlled mechanism is called temperature-dependent sex determination.

Common snapping turtles generally are abundant throughout their range, but in some areas are very sparse due to several pressures. As in many other reptile species, snappers are highly vulnerable to predation at early life stages. Predation of nests in many areas is high, ranging from 30% to 100% of the nests in some studies. Main predators of the eggs such as raccoons, crows, and dogs, are frequently associated with high human populations. Also, with increased development often comes loss of wetland and nesting habitat, which are both essential for snapping turtles. Some local

populations have been severely depleted by over-harvesting for their meat, and this decline is a major concern. Because of the diet and the habits of snapping turtles, they may accumulate high concentrations of contaminants, such as PCB and mercury, in their tissues. This could pose a health hazard to people who eat snapping turtle meat.

Landowners can enhance habitat for snapping turtles by maintaining the natural hydrology of wetlands and preventing unnatural drainage. Because snapping turtles frequent emergent vegetation for feeding and resting cover, maintaining native vegetation in and throughout shallow wetlands and around the margins of large, deep ponds and lakes will benefit this species (and other turtles as well). Provide a buffer zone of natural vegetation of 100 feet or more surrounding ponds and wetlands. Turtles, as well as other animals such as frogs and salamanders, require both wetland habitats and surrounding upland habitat to remain healthy. By maintaining open areas with loose soil near aquatic habitats, landowners can also ensure that these turtles have adequate nesting sites. Old log landings, maintained as open habitat, can make suitable nesting sites. By focusing on both upland and wetland habitat, landowners can attract and provide for snapping turtles and a wide diversity of other wildlife.

Kristi Sullivan is Co-Director of the Conservation Education and Research Program at Cornell University's Department of Natural Resources. More information on managing habitat for wildlife, as well as upcoming educational programs, can be found by visiting the Conservation Education and Research Program web site at ArnotConservation.info

Meet A Board Member

A message from Joseph Graney, Secretary, E.L. Rose Conservancy

Hi Everyone,

As a means of introduction as to how this Associate Professor of Geological Sciences at Binghamton University ended up as a Board member for the EL Rose Conservancy, I thought I would present a bit of a historical perspective on how my career path and interests have evolved.

I am a native of Wisconsin, and was raised on a dairy farm 30 miles south of Green Bay. Unfortunately I was allergic to animal dander and many types of dust, so I was aware from an early age that I was not meant to carry on the dairying tradition. However, related science topics concerning geology and land conservation practices have offered other opportunities! I received undergraduate training in geology at the University of Wisconsin at Platteville in the late 1970s, when the Geology program was closely intertwined with the Mining Engineering program (the southwestern portion of Wisconsin where Platteville is located contains many zinc and lead mines). The Geology and Mining Engineering programs have since morphed into a Reclamation Program that is tied in with the soil science and agriculture curriculum at UW-Platteville.

In 1980, my undergraduate mentor advised me to "head west where the jobs were". So I embarked on a cross country trip via Greyhound to start work on an MS degree from the Mackay School of Mines at the University of Nevada at Reno. I worked in the mining exploration industry for most of the 1980's, which in some cases included being paid to hike in mountains throughout the western U.S. in search of mineral deposits. This was a physically and visually fulfilling experience, but perhaps not as mentally challenging as I had hoped for. So, I returned to graduate school at the University of Michigan in 1989 to work on a PhD dissertation within the field of environmental geochemistry (which combined the study of rocks, soils, and watersheds). I remained at the University of Michigan for several years after completion of my PhD to work in the Air Quality Laboratory in the School of Public Health.

I am a 1998 vintage arrival to the Geological Sciences and Environmental Studies program at Binghamton University (BU). Needless to say, Green Bay Packers paraphernalia is found throughout my office. I also met my wife at the University of Michigan (Dawn is a Michigan native), and to this day she reminds me about the Michigan football and hockey tickets that were sacrificed to move to Binghamton… Dawn is definitely the more tech savvy person in our household, evidenced by her offering several types of on-line classes as an adjunct instructor in the Health Information Technology field at Broome Community College.

In some ways my role has changed from educator to administrator since 1998, for I am presently Chair of the Department of Geological Sciences, as well as the Director of the Environmental Studies Program, and the Associate Director of the Center for Integrated Watershed Studies at Binghamton University. My current research interests include tracing natural and anthropogenic geochemical processes to assess ecosystem impacts adjacent to Oil Sands production facilities in Alberta; assessments of energy resource development on Chesapeake Bay watersheds; and the impact of interstate and local roadway infrastructure on surface and groundwater resources.

I was introduced to the opportunities at EL Rose through John Titus, a faculty colleague from Biological Sciences, through our interactions in the Center for Integrated Watershed Studies. So life-long interests in geology, biology, and the environment have evolved to allow me to become more involved in land conservation efforts with EL Rose…in a way full circle back to my youth on the dairy farm in Wisconsin!

The students at BU inspire and motivate me in several ways that are related to EL Rose interests. For example, groups of students in an Environmental Impacts Statements (EIS) class at BU worked on a project that compared Cold Water Fisheries versus Exceptional Value status for the Silver Creek watershed (the project results will be placed on the EL Rose website). Another group of EIS students worked on natural gas pipeline impacts in Susquehanna County, PA and Broome County, NY. And one of my undergraduate researchers (Conner Chase) worked on a project that superimposed the subsurface extent of the horizontal laterals from natural gas well pads onto the stream, wetlands, and topography at the surface. This project is ongoing, so check back for future updates on the EL Rose website! One of my graduate students, Jason Johnson, has spent a lot of time on the presentation and outreach circuit associated with his PhD project that is focused on assessing natural variations in surface and groundwater geochemistry in watersheds along the NY/PA border. Jason demonstrated that there are lots of opportunities to combine water quality information from public and private sources. We just need to provide more mechanisms for landowners, as well as lake associations, to share and compare their results! So discussion of local and regional water quality is one area that I hope to become more involved in through my EL Rose interactions.

Well thanks for this opportunity to introduce myself. I hope to have the opportunity to meet many of you in person at an EL Rose function! Feel free to contact me using e-mail: jgraney@binghamton.edu

Annual Meeting

Mark Your Calendar for July 26th

We will gather at 9 a.m. Saturday, July 26th for our annual membership meeting. Look for our annual report and a meeting agenda in July.

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