



ONAPA NEWS

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Not a beaver, but they're just as busy

By Guy Denny

In some circles, it is known as Musquash, Marsh Hare, Marsh Rabbit, or Musk Beaver. However, to most, it is best known by its less glamorous name, “Muskrat”. Contrary to its common name, the Muskrat (*Ondatra zibethicus*) is not related to a rat even though it has a naked rat-like tail. Even though it has a superficial resemblance to a small beaver and shares some of the beaver’s traits, it is not related to a beaver, either.

Reportedly, the genus name *Ondatra* is a Native America (Huron) name for the muskrat essentially meaning “it is red” in reference to the muskrat’s reddish-brown fur coat. The specific epithet *zibethicus* is New Latin meaning “civet-odored” or “musty-odored”. True to their name, both male and female muskrats have two musk glands located near the base of their tails. During the breeding season, the musk glands enlarge and musk is used to attract mates. Males also use musk to mark off their territories to ward off competitors.

Muskrats are semi-aquatic rodents that range across most of North America. They occur throughout Ohio where they inhabit marshes, especially Lake Erie marshes in the Western Basin where they occur in large numbers. Where marshes may be few and far between, they



Photo by Mike Mainhart

Muskrat

inhabit rivers, streams, lakes and ponds. Those that inhabit shallow-water marshes construct domed-shaped houses or lodges made of cattails and other wetland vegetation incorporated with mud — not unlike a small version of a beaver lodge and serve the same purposes. There is an internal, watertight main nest chamber perched above water level with several tunnels exiting under water. The lodge protects its inhabitants from predators and cold winter weather.

In areas lacking suitable marshes, muskrats dig tunnels from beneath water levels into the banks of rivers, creeks, ditches, ponds and lakes. The tunnels may be from 10-50 feet



Photo by Guy Denny

Muskrat lodges

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Muskrats

in length angling upward leading to an underground nest chamber situated well above water levels. Sometimes, an escape tunnel may be dug from the nest chamber upward to dry land. In winter, when the underwater tunnel is covered by ice, the escape tunnel may also be used to easily access edible plants on adjacent dry land.

Muskrats are primarily vegetarians feeding extensively on cattails, bulrushes, arrowhead, and numerous other aquatic plants. But, they are also known to occasionally feed on frogs, fish, crustaceans, and shellfish. Muskrats inhabiting rivers often consume large numbers of freshwater mussels. When cutting vegetation or digging up tubers or rhizomes underwater, the lips partially close off the mouth behind the sharp orange-colored incisors so that water or debris stirred up while foraging does not enter the mouth. Muskrats usually drag their food to feeding platforms so they can get out of the water to eat. They can be active during daylight hours, but muskrats are essentially crepuscular animals which means they are most active from dusk to dawn.

The breeding season in Ohio runs from early spring into late autumn. Females can have 2-3 litters a year with 3-9 young, called kits, in each. The young are born helpless but are fully weaned when they are about four weeks old. Soon after they can make it on their own and can usually breed when they are about a year old. The average lifespan is about 3-4 years with the highest mortality occurring during the first year or so. One study showed that only about one third of the young live into their first winter. Predators include great horned owls, eagles, foxes, and coyotes. But the most serious threat comes from trappers and mink. Mink are especially hard on muskrat populations.

Muskrat pelts are perhaps the most common commodity on the fur market historically to this day. They are used by the garment industry for making outerwear, mostly fur coats and hats. The pelage (fur or fur coat) is very much like that of the beaver. Just like with the beaver trade, muskrat pelts played a significant role in the development of our country. Starting in the late 1600s, when the Hudson Bay Company helped create a demand for North



Photo by Mike Mainhart

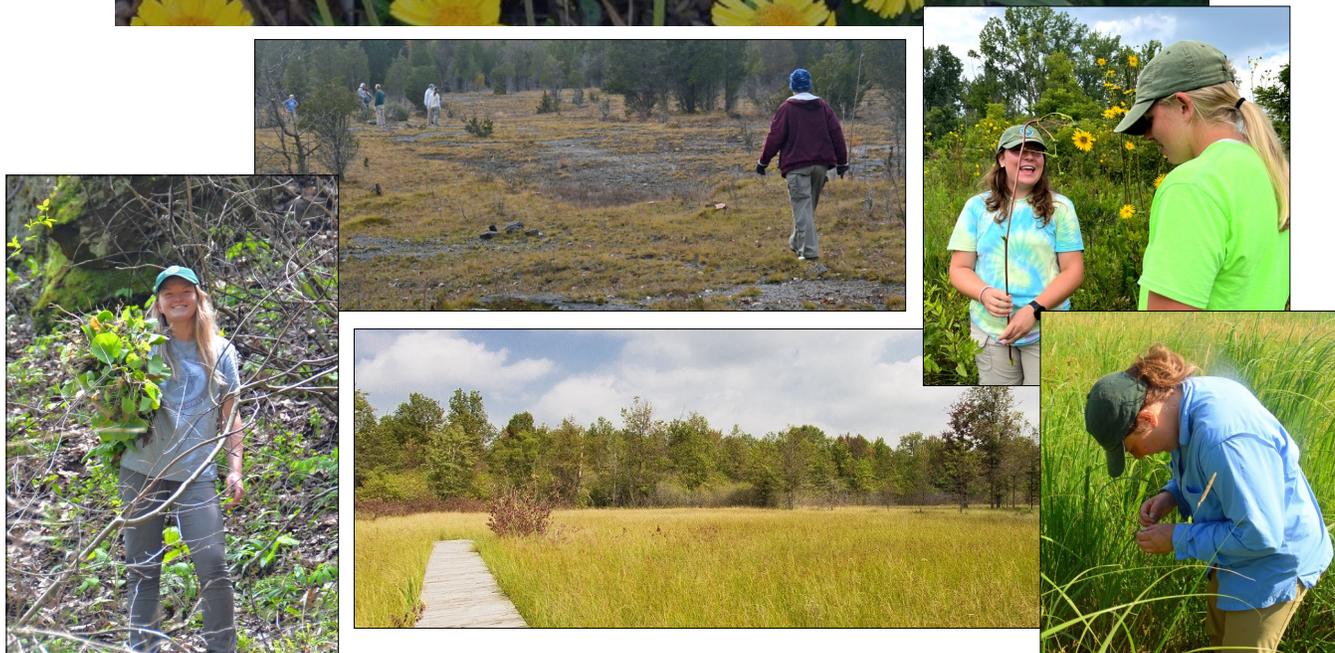
It's common to see swimming muskrats in the marsh.

American fur in Europe, a very lucrative industry was established providing considerable wealth for our emerging nation. Muskrats were not only trapped for their valuable fur by Native Americans and early frontiersmen, but also for eating. Although the flesh has a gamey flavor, the very lean meat is edible except during the breeding season when excessive musk produced taints the meat making it undesirable.

Just like beaver, Muskrats have two types of fur. They have a very luxurious, soft undercoat of waterproof fur that helps trap air, providing buoyancy and insulation against the cold. Overlying the undercoat of fur is a second outer layer of fur comprised of long, coarse and less dense guard hairs. In addition to having a dense waterproof coat of fur, muskrats are additionally well designed for their semi-aquatic lifestyle. Like beaver, muskrats have small front feet used for grasping food and digging. In comparison, the hind feet are much larger and are partially webbed. These are used primarily to propel them through water. The distinctive long scaly naked black tail is vertically flattened, a unique characteristic to muskrats, and serves largely as a rudder. Muskrats can swim about 1-3 miles per hour on the surface before diving under water. They can swim submerged up to about 100 yards and large lungs allow them to remain submerged from 10 to 20 minutes.

Muskrats have a bad reputation for tunneling into earthen dams, dikes and levees, and for raiding gardens, especially corn fields. Based on my experience, while these threats have some validity, they are often greatly exaggerated. Muskrats are a beneficial component of wetland ecosystems and most just go about their entire lives without ever causing any serious problems.

Our work is possible thanks to you



Thank you so very much to our Members, Volunteers and Donors during this season of giving who make the work of the Ohio Natural Areas and Preserves Association possible. Without you, there is no ONAPA. **Your support makes a big difference in many ways!**

ONAPA is a private, 501(c)(3) non-profit, totally volunteer organization. We have no employees, no office facilities nor any vehicles. The only source of funding to make this extremely critical work possible comes from membership dues and generous donations received from supporters like you. Every dollar received goes to achieving the mission of protecting the ecological integrity of many of Ohio's most significant natural areas throughout the state.

ONAPA does not acquire land; rather, using our extensive land-managing expertise, we partner with organizations who do acquire natural areas to help protect the most highly significant natural areas from the loss of ecological integrity primarily due to the threat of invasive species and natural succession.

A critical component of our work is our **Stewardship Assistant Program**. We recruit young

people getting ready to graduate or who have recently graduated from college, and who want to pursue a career in natural resources management, environmental biology, or some related field. Using donations given to ONAPA, we give students a stipend to work with us during the summer months (4-9 months typically) as private contractors. This gives these young people the opportunity to acquire — first hand — “boots-on-the-ground” land management, plant identification, and rare plant survey skills. They network with people from other conservation organizations and agencies while achieving the mission of ONAPA.

Visit www.onapa.org to see how you can become a volunteer or make a financial donation to ONAPA. We are specifically striving to raise funds for the **Stewardship Program in 2024** to support two to three Stewardship Assistants.

**Most gratefully to you from the
Officers, Board, and Advisors
of ONAPA—Thank You!**

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Our hard work is rewarded with thriving native plant communities

By Mariola Castrejon

This May, I had the privilege to return to ONAPA for a third season as a stewardship assistant. A non-traditional candidate for the position, I started off with ONAPA one day a week during the summers of 2019 and 2020, in between a full-time job and studying for a master's at OSU. Graduating in December 2022, I was excited to fully jump back in this year and continue building my skillset as a land steward.

ONAPA's stewardship assistant program has been an invaluable experience for myself and my cohorts beginning their careers in the environmental field. Stewardship assistants work in natural areas and preserves all over Ohio, managing invasives, surveying rare plants, and monitoring the state's lesser-visited preserves. This year, we will be completing over 70 projects at 45 sites, working alongside practitioners from nearly 20 different partnering agencies and organizations, including the Division of Natural Areas and Preserves and The Nature Conservancy. In addition to these field experiences, stewardship assistants grow their expertise through varied educational opportunities that include field trips, workshops, and conferences.

Many of us start in the position as newbies and do a lot of absorbing from the many knowledgeable people we get to work with, in particular our amazing mentor and ONAPA vice-president Jennifer Windus. By the end of the season, we've become familiar with Ohio's diverse ecosystems and their best management practices, and have gained a variety of practical skills along the way. We are still absorbing all we can, but feel more confident in our abilities and ready to carry on what we've learned to more advanced positions in the field. As an example of this, one of this year's continuing stewardship assistants, Maddie Brown, has transitioned into the preserve manager position at Cedar Bog, one of Ohio's most ecologically important state nature preserves.

This has been one of the most fulfilling jobs I've had and I will always be grateful for the opportunity. Each year has offered new learning experiences, new friends, and great memories to look



Photo by Lydia Radcliffe

Mariola literally gets her feet wet while on the job in the field as a stewardship assistant!

back on. As I reflect on my three seasons with ONAPA, I am proud of all we've done to maintain the ecological integrity of Ohio's highest quality preserves. Returning to some of the same sites year after year, I can see that they are changing for the better. Our hard work is rewarded with thriving native plant communities and fewer sightings of invasives. Keeping at bay the threats our natural areas and preserves face requires constant effort and solid partnerships. It is encouraging to see the network of partners, dedicated volunteers, and stewardship assistants ONAPA has helped develop continue to grow. Together, with a shared mission, we can accomplish work that generates significant benefits for future generations of people, plants, and wildlife.

ONAPA will soon be accepting applications for new stewardship assistants. Applicants should be completing at least their junior year of college, or be recently graduated. This part-time contract position begins in May, with the option to complete a 3- or 6-month contract. If you or someone you know might be interested in becoming a stewardship assistant, check out the [**STEWARDSHIP ASSISTANT**](https://onapa.org) page at onapa.org for the position description and more information on what we do. We'd love to have you join us!

Autumn focuses on control of woody species

By Jennifer Windus

ONAPA continued its stewardship efforts with a variety of partners this fall including Killbuck Watershed Land Trust, Crane Hollow Inc., Division of Wildlife, The Nature Conservancy, Cedar Bog Association, Great Parks of Hamilton County, Crawford County Park District, City of Dayton, Greene County Park District, and the Division of Natural Areas & Preserves (DNAP). With each partner, we are helping them manage their natural areas as all are short on staff, volunteers, and resources.

In the fall, we focus on control of woody species as it is the best time to cut and treat stems with herbicide when the plants are pulling resources down to their roots. At each one of our 15 autumn projects (listed below), we cut and hauled woody stems, then treated the stems with a systemic herbicide (typically Garlon 4 or Roundup Custom) to prevent re-sprouting.

Two preserves of particular note are Cranberry Bog and Travertine Fen. ONAPA started clearing the bog meadows at Cranberry Bog in the fall of 2019 in cooperation with DNAP. We have focused on the meadows near the boardwalk in an effort to improve habitat for bog species such as sphagnum, pitcher-plants, large cranberry, calapogon orchid, and rose pogonia. This fall we cleared additional meadows to the west of the boardwalk and established four plots to compare the effectiveness of different herbicides. Most of the woody species removed were poison sumac, glossy buckthorn, and black chokeberry.

Our November project at Travertine Fen was the first for ONAPA at this dedicated preserve, owned and managed by Greene County Park District. It is a small, high-quality fen ecosystem along the bike trail



Photo by Jennifer Windus

Cranberry Bog in October

in Spring Valley, in need of regular control of woody species invasion in the meadows. ONAPA and DNAP will be partnering with the park district to reopen or enlarge the existing meadows. It will take several projects in the coming years to restore the meadows, but it is worth the effort as the park district does not have the staff for this level of habitat management.

We hope you can join us on our winter projects, scheduled once a week, to continue to work on woody species (January projects are listed below). Watch our website for the January-March schedule.

We extend our gratitude to all our ONAPA volunteers who help us throughout the year, making great progress to manage natural areas around the state!

Number of Projects by Month

September (8) – Brinkhaven Oak Barrens, Cranberry Bog, Crane Hollow, Meilke Road Savanna Wildlife Area, Herrick Fen, Kitty Todd, Cedar Bog, Prairie Road Fen

October (4) – Cranberry Bog, Sharon Woods Gorge, Daughmer Savanna, Brinkhaven Oak Barrens

November (4) – Medway, Gallagher Fen, Travertine Fen, Lakeside Daisy Preserve

December (4) – Erie Sand Barrens, Crane Hollow, Kitty Todd, Herrick Fen

January Stewardship Projects

We have planned 12 stewardship projects for **January through March**, but at press time we were still waiting on a few confirmations from preserve managers. Check the website ONAPA.org for updates and full descriptions. The January projects are confirmed:

January 9 - OSU Marion Prairie, woody species control

January 18 - North Bend Bog, Cleveland Museum of Natural History preserve, woody species control

January 23 - Castalia Quarry, one of the **Lakeside daisy introduced sites**, woody species control

Winter warblers not as rare as you might think

Story and Photos by John Watts

We usually don't regard the winter months of December, January, and February as the months of the year to see warblers in Ohio. A few species of warblers, however, are annually encountered during these months of the year. I tend to feel that Yellow-rumped Warblers, especially in central and southern Ohio are the ones most frequently encountered. It is not unusual to find small loose flocks of them near poison-ivy vines and thickets, especially intertwined in pine and other evergreen trees and feeding on poison-ivy fruit.

In recent years, numbers of Pine and Orange-crowned Warblers have increased during the winter months especially near feeding stations utilizing suet and peanut butter for their winter nourishment. Two other species, the Common Yellowthroat and Palm Warbler, may also be found during the earlier part of the winter but often depart by mid-January or may succumb to the rigors of cold spells during Ohio's winters. However, even those two species occasionally can be considered as overwintering. I was aware of several other Ohio winter month's records of some of Ohio's 40 recorded species of warbler, but how many are there? To my surprise, in addition to the five species mentioned above, 17 other species of warblers have been recorded for the months of December, January, and February in Ohio for a total of 22 species. It should be noted that some species may linger in the fall as late departing migrants. Other species may return the last few days of February as early returning spring migrants, so some caution needs to be applied to the topic. The following information was summarized using records from Harlan (2022), Harlan (2021-22), Peterjohn (2001), Watts et al (2016), and eBird records from the "explore species maps tabs."

The following species occur regularly in low numbers during the winter months, except as noted:

Orange-crowned Warbler* – Rare early winter visitor and overwintering species with numbers increasing near feeders in recent years.

Common Yellowthroat – Casual to accidental winter visitor with 1-6 reported annually through the first half of January.

Palm Warbler – Casual early winter visitor with most departing by Jan. 15.; at least 4 overwintering records.

Pine Warbler – Rare winter visitor in small numbers. Most recent Franklin Co., 2018-2022.

Yellow-rumped Warblers – Casual to rare to uncommon winter residents increasing in numbers from northern to southern Ohio; occasionally in larger flocks in southern Ohio.



Yellow-rumped Warbler

The following species are very rare to accidental species and should not be expected during most winters:

Ovenbird – Accidental winter visitor with at least three overwintering records, most near feeders.

Northern Waterthrush – Accidental winter visitor with at least 7 December records; Tuscarawas Co., 1/3-2/15/1998 may have been an overwintering bird.

Louisiana Waterthrush – Accidental with 2 records; Geauga Co., 12/31/2016; Summit Co., 12/29/2001.

Black-and-white Warbler – At least 6 records; late February records could be early migrants.

Tennessee Warbler – 2 records; Cuyahoga Co., 2019 and 2022.

Nashville Warbler – 9 records; most recent Franklin Co., 2022.

American Redstart – 4 records; Lake Co., 1973; Franklin Co., 2015 and 2021; Hamilton Co., 2022.

Cape May Warbler – At least 15 records;

(Continued on page 7)



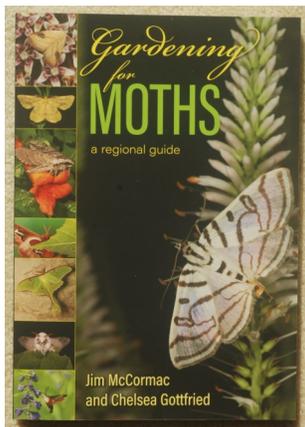
Orange-crowned Warbler

Made for nature lover

Here is another “must have book” for any nature lover’s library. *Gardening for Moths* is a 2023 Ohio University Press release by two of Ohio’s finest naturalists and nature photographers, Jim McCormac and Chelsea Gottfried.

Although most of us are familiar and enamored with colorful and fascinating butterflies, we tend to be much less familiar with night-flying moths with the possible exception of the large silk moths. Yet, moths far outnumber butterflies in species, diversity, and sheer numbers. Moths and their caterpillars play an essential role in the food chain for other wildlife, especially birds and amphibians. Perhaps even more important, they play a major and critical role in the pollination of native plants.

Gardening for Moths provides a fascinating overview of moths, profiles about 140 plant species that can be grown to attract moths, and highlights with stunningly beautiful color photographs, most taken by the authors, approximately 150 species of moths that can be encountered in our region. Jim McCormac and Chelsea Gottfried show us how through gardening for moths, we can entice these wonderful and diverse night-flyers into our landscapes and our lives.



Continued from page 6 Looking for winter warblers is rewarding

Hocking Co., 12/25/2009 to mid-April 2010; most recent Franklin Co., 2022.

Northern Parula – 1 record; Trumbull Co., 2023.

Magnolia Warbler – 1 record; Erie Co., Kelley’s Island, 2016.

Yellow Warbler – 5 records; Cleveland, 12/7/1983; Wayne Co., 12/14/2018; Holmes Co., 12/6/03 and 12/14/19; Sheldon’s Marsh SNP, Erie Co., 12/18/21.

Chestnut-sided Warbler – 1 record; Franklin Co., 2020.

Black-throated Blue Warbler – 6 records; most recent Franklin Co., 2021.

Yellow-throated Warbler – 5 records; most recent Summit Co., 2017.

Black-throated Gray Warbler – 2 records; Athens Co., 1969; Brown Co., 12/25/92-2/16/1993; Cuyahoga Co., 12/11-12/18/1993.

Black-throated Green Warbler - 1 record; Franklin Co., 2021.

Wilson’s Warbler – 4 records; most recent Licking Co., 2021/2022.

Finding warblers during Ohio’s winter months will be a challenge in some areas of the state, but the reward may brighten our otherwise cloudy gray months. Good luck.

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