



Gerard Gehrling, ODNR Photo Gallery

Winter Is For The Birds

by Lara Askill, MetroParks of Butler County

One of the earliest memories of my childhood is feeding the birds visiting my backyard during winter. I can still hear Mom chopping up corn in the blender from the grain elevator just up the road. I can smell the peanut butter left on my fingers after spreading it on pine cone feeders. I can feel

the cold of my face pressed against the window as I try to get a better look at a bright red Northern Cardinal against the snow back drop. Of course, within seconds, the view is fogged due to my breath on the window pane. I hear the squeaking sound as my hand wipes across the glass. Who would have thought writing a bit about birds in winter would allow for childhood reminiscing.

Winter is a life and death struggle for the birds that stay in their territory when the mercury dips below freezing. Many of the birds in our area have evolved to migrate to warmer climates; like some of our human friends that are referred to as “snow-birds” in the locations where they winter. However, some of our resident birds stay here all year. It is these birds in particular that are the subject of this article, because in the wild, you either survive or perish; there are no other choices.

So with that said, how do our resident birds maintain their body temperature when the snowflakes are falling? They have evolved several strategies to survive; otherwise they would become extinct. The most obvious is to grow more downy feathers. Some birds and other animals seek shelter during inclement weather ranging from tree cavities, rocky crevices, evergreen bushes and brush piles. Others, such as the Northern Bobwhite will huddle together to share warmth. Ever watch a Black-Capped Chickadee puff its feathers up and tuck its head and feet underneath? The air is trapped between the feathers and acts as a thermal blanket to keep it warm. This same bird will lower its body temperature and shiver to help conserve energy at night, too.

Humans do not need to gain weight to survive the winter, even though several of us do because of the plentiful holiday meals. However, birds do have to add fat to their bodies. This fat layer acts as an insulator and an energy source. This winter season, consider taking time out of your busy schedule and observe the birds eating at the feeders all day long; beefing up their fat resources during the day helps them survive through the cold frosty nights.

Additionally, give our “feathery friends” a helping hand by filling your bird feeders often, providing water baths and supplying a brush pile shelter in your yard. At the end of this season it is our hope that your reward will be some cherished memories to share with family and friends, too.



David Tarr ODNR Photo Gallery

Save the Date

More information about each opportunity at www.eeco-online.org

OEef Grant

Letter of Intent due July 8 2015
Grant Due July 15, 2015
www.epa.state.oh.us/oeef/

Winter Snow Conference

Feb 6-8 at Camp Nuhop, Perrysville, Ohio
See page 4 for details

Ohio Natural History Conference

Saturday, February 28, at the Ohio History Center, Ohio Historical Society, Columbus. Find out more and register online.

Pollinator Short Course

March 12, Valley Vineyards, Morrow, Ohio. Reg & Info - <http://tinyurl.com/q6l8qbk> (pdf)

EECO Annual Conference

April 9 - 12, at Maumee Bay State Park in NW Ohio
See page 3 for details

Ohio River Valley Woodland & Wildlife

March 28, Sharonville, Ohio. Learn about landowner tools and techniques <http://tinyurl.com/qewo58d>

Ohio Wildlife Diversity Conference

March 11, 2015
Alladin Shriner's Complex, Columbus. See page 5 for details

Winter Candy Recipes

By Brenda Metcalf, EECO Director

Old Fashioned Honey Taffy

- 1lb. honey
- 1 cup sugar
- ½ cup of evaporated milk
- Soft butter for platter and hands- at least one stick

Combine honey, sugar and milk in a large saucepan with a candy thermometer (do not let it touch the bottom of the pan) and bring to a boil slowly, stirring until the sugar is thoroughly dissolved. Then cook slowly, stirring occasionally to the hard crack stage (300° F). Pour onto a generously buttered platter or pan. As soon as cool enough to handle, using well buttered hands, pull small chunks of taffy until it becomes a creamy golden color and cut into small pieces and wrap each in waxed paper. If possible pull taffy outside in below freezing temperature. This helps cool the taffy during the pulling process.



Pulled Candy Recipe or also called Stewed Sugar

- 2 cups sugar
- ¼ cup water
- ¼ cup cider vinegar
- Soft butter for greasing hands and cooling surface – at least a stick of butter

Combine sugar, water and vinegar in a large saucepan with a candy thermometer (do not let it touch the bottom of the pan) and bring to a boil slowly, stirring until the sugar is thoroughly dissolved. Once boiling do not stir, cook to the hard ball stage (260-265° F). Remove from heat, if adding flavoring do it now, stir then pour onto a generously buttered platter or pan. As soon as cool enough to handle, using well buttered hands, pull small chunks of taffy repeatedly until it turns a creamy white color and cut into small pieces and wrap each in waxed paper. If possible pull taffy outside in below freezing temperature. This helps cool the taffy during the pulling process.

Coffee Can Ice Cream

- 1 pound coffee cans with lid (may need additional 3lb coffee can with lid, ice and rock salt)
- 1 cup milk
- 1 cup heavy cream
- ½ cup sugar
- 1 teaspoon vanilla
- duct tape

Place milk, cream, sugar and vanilla in 1 pound can. Cover with plastic lid and seal with duct tape. Roll can outside in below freezing temp and in the snow (if possible) for about 15- 20 minutes. If not able to use outdoor cold temps and snow then place 1lb can into a 3lb can and fill with ice and sprinkle rock salt on top and seal lid with duct tape. Roll for 10 minutes then open 3lb can and dump water and add more ice and salt. Roll for another 10 minutes. Makes about 2-1/2 cups soft ice cream.



Upcoming Newsletters

Do you have a theme that you are interested in? Want to share information about a particular EE topic? If so, contact our newsletter committee about submitting articles, or even becoming part of the committee.

Articles are typically 300-500 words. As you can see, we like to include lots of pictures. If you submit photographs, please make sure they are of high quality/resolution, and are not copyrighted.

To find out more about how to submit, or to join our committee, please contact Betsy Banks at ewb@case.edu

EECO Annual Conference

Riding the Wave of Environmental Education

April 9 - 12, 2015
Maumee Bay State Park

Strands:

- Population & Climate Change: Population crisis causing climate change & water issues
- STEM & Careers: Importance of STEM (Science, Technology, Engineering, Math) in schools and in the future of Ohio careers
- Youth Education: Connecting children to their natural world
- Funding & Philanthropy: What and who are fundable and why do individual donors give to non-profits

College Credit and Sanitarian Hours will be provided for this conference.

Registration will be on the EECO website soon.

Display or Sponsor: If you would like to display, be a vendor or a sponsor at the conference please contact Brenda Metcalf at brendasmetcalf@aol.com for more information.

Awards: If you can think of an educator (formal, non-formal, volunteer) or an organization that has performed outstanding contributions to environmental education in Ohio, please contact Brenda Metcalf. There are also awards for publications, EE through art, along with an award for business or industry that fosters a climate of cooperation for resolving environmental problems. Please visit <https://eeco.wildapricot.org/awards> to find out more about the various awards and how to submit a nomination. Brenda can be reached at brendasmetcalf@aol.com.



Project WET in Ohio

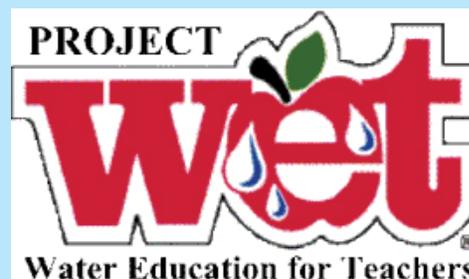
Has Moved Home

On January 1, 2015, Project WET in Ohio moved from the Ohio Department of Natural Resources to the Ohio EPA.

The Ohio EPA already administers Healthy Water, Healthy People, Project WET's curriculum for upper middle and high school grades.

Both programs raise awareness and understanding of water quality issues and their relationship to personal, public and environmental health. Project WET and Healthy Water, Healthy People are both aligned with Ohio and national standards for science and social studies education, and link priority water quality topics to real-life experiences of educators and students.

For information on correlation of the curriculum to Ohio's learning standards and upcoming workshops, contact the Ohio EPA, Office of Environmental Education at (614) 644-2873 or email OEEF@epa.ohio.gov



EECO Awards

Nominations Are Due

It is the honor of EECO to recognize individuals and organizations that are providing exemplary EE and striving to preserve our natural environment in Ohio. Consider nominating a deserving person or organization for an EECO Award by submitting the nomination form <https://eeco.wildapricot.org/awards>. Nominations are accepted each year for the following awards. An awards committee reviews all nominations and selects recipients. Awards are presented during the EECO Annual Conference each April.



- Finlay-Johnson Award - given to an EECO member for making a significant or outstanding contribution to EECO.
- Christy Dixon Award - given to a young professional who has contributed significantly to environmental education in Ohio.
- Outstanding Environmental Educator in the field of formal education - given to a preschool, elementary, middle school, high school or college teacher, administrator or curriculum specialist for outstanding contributions to environmental education in Ohio.
- Outstanding Environmental Educator in the field of nonformal education - given to a nonformal educator for outstanding contributions to environmental education in Ohio.
- Outstanding Volunteer Award - given to a volunteer who has made a significant or outstanding contribution to environmental education in Ohio.
- The Charley Harper Award - given to an artist who has made a significant or outstanding contribution to environmental education in Ohio through various forms of art.
- Organization Award - given to a business or organization that has made a significant contribution to environmental education in Ohio.
- Publications Award - given to a publication that has made a significant contribution to the public understanding of an environmental issue(s).
- Ohio Alliance for the Environment Award – given to a business or industry that is dedicated to fostering a climate of cooperation for resolving environmental problems.

Nomination forms: The nomination forms are located at <https://eeco.wildapricot.org/awards>. Please download and complete ASAP. The snail-mail and e-mail address are on the nomination form.

Questions: If you have any questions, Brenda can be reached at brendasmetcalf@aol.com

Winter Snow – Creative Ways to Teach STEM!

*February 6-7, 2015
Camp Nuhop, Perrysville, Ohio*

The conference will be held again at the fabulous Camp Nuhop, 1077 Hanover Twp. Rd. 2916, Perrysville, OH 44864.

This fun, informative, and inexpensive conference is a great way to waken up your mind from its winter hibernation.

The conference includes optional hikes, diverse concurrent sessions, and even a movie night. Sessions include: What's all the buzz, Glacial Cylinders, Aquaponics, Get Zen with Nature and much more.

Find out more and register online at <https://eeco.wildapricot.org/>



Winter Snow 2013



Winter Adaptations

By Joe Brehm, *Rural Action*

Ad-ap-ta-tion : a change in a plant or animal that makes it better able to live in a particular place or situation

When explaining adaptations to children, adults, friends, and family members, I often refer to a plant or animal's adaptation as its "superpower." I like this because it connects with something that most people of all ages are familiar with, it grabs the audience's attention, and can be used with any organism. Moreover, any creature, plant or animal, that has survived the test of time is worthy of such acknowledgement. Once you begin to investigate adaptations, you realize that "superpower" is not necessarily an exaggeration.

Right now wood frogs are frozen solid. Snapping turtles are buried in the mud, their hearts beating once every two minutes and breathing through their butts (a high concentration of blood vessels near the anus allows for oxygen exchange while underwater). Groundhogs, the world's largest true hibernators, have a body temperature of 4 degrees Celsius.

Golden-crowned kinglets, some of our smallest birds in Ohio, face winter head-on without blinking an eye. They forage fearlessly for tiny caterpillars, eating their body weight each day to build enough body fat to survive the cold nights (see Bernd Heinrich's book *Winter World*). White-tailed deer retain body heat due to the dead air space created by their hollow hairs, weasels hunt relentlessly for rodents to feed a high metabolism that produces heat. Some weasels are aided in this pursuit by changing to a pure white color during the snowy winter.

Monarch butterflies are one of many creatures equipped to escape winter through migration. They huddle together in vast numbers in the mountains of Mexico, waiting for spring to come around again.

Trees, however, may have the most impressive adaptations of all to survive winter. The most famous adaptation for deciduous trees is losing their leaves in the fall to avoid severe damage to branches during snowfall and tissue freezing with cold temperatures. However, the entire tree undergoes changes, right down to the cellular level. Trees are about 50% water—if their water-filled cells froze during cold snaps, the cells would burst and destroy their living tissue. To avoid this, trees' cellular membranes become pliable during winter, allowing water to migrate out of the cell to the spaces between cells. This keeps the cell from bursting if the water freezes. But there's more. As cold weather approaches, trees convert the starches they produced during the summer to sugars. This sugar is retained in the cells in high concentrations that lowers the cells' freezing temperature.

These are just a few of the superpowers among Ohio creatures that offer teaching opportunities. For more information and lesson plans, check out these links:

www.pbslearningmedia.org/resource/midlit10.sci.splwinter/surviving-winter

www.nea.org/tools/lessons/winter-theme-gradesK-5.html



Skunk tracks

Ohio Wildlife Diversity Conference

Wildlife Challenges and Positive Connections

March 11, 2015

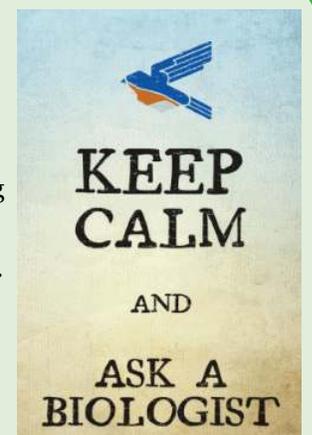
Alladin Shriner's Complex, 3850 Stelzer Rd, Columbus

Topics include: hunters and birdwatchers, Asian long horned beetle, urban wildlife, raising hellbenders, and more

Registration: Register Online at <https://apps.ohiodnr.gov/wildlife/DiversityRegistration/>. Pre-registration is highly recommended and is \$25.00 if paid before February 26, 2015. Registration after that date or on site will be \$35.00. The registration fee includes all breaks and handout materials. Luncheon is only available with pre-registration. Fees are nonrefundable; if you are unable to attend, you may send a substitute.

Lunch Option: We have a sit-down luncheon on site for those who pre-register, \$14.50. We hope you'll join us and take advantage of the opportunity to visit with other attendees and our speakers. There are also several restaurants within a short driving distance. PLEASE NOTE: No outside food is allowed in the Alladin.

Ohio Wildlife Legacy Stamp: Be the first to purchase your Ohio Wildlife Legacy Stamp. For only \$12.00 order your stamp today and receive it with your name tag at the conference. All proceeds benefit Ohio's wildlife diversity.



Wild Winter Constellations

By Jen Dennison, ODNR Division of Wildlife

Sitting alone in the early morning darkness at your favorite deer hunting spot, or perhaps taking a late evening walk with your kids in the crisp winter air, you're bound to look up at the night sky. The stars shine bright and clear. Can you find the Big Dipper? What about Orion? Or Cassiopeia? All of these constellations and more are some of the highlights of spending time outdoors on a clear winter night.



Constellations are patterns of stars created by human cultures. These patterns are a part of old stories, myths, legends, and poems that the Greeks, Romans, Native Americans and other ancient cultures have made up over thousands of years. While these stories explain the shape and names of the constellations, what they really do is help us find and remember which stars are which. There are 1000 to 1500 stars visible on a dark, clear night. The patterns of the constellations help to break up this massive amount of stars into manageable pieces of the puzzle that make up the night sky. Let's take a look at what constellations are visible during the different seasons, and we'll focus on constellations that reminded those ancient cultures of the animals that humans admire so much.

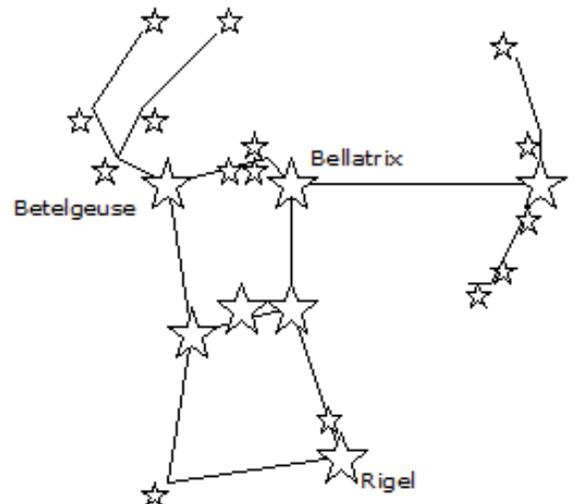
Taurus and the Pleiades

Taurus, the Bull, is the first constellation of winter. It is first visible in late October through early March. The constellation is the shape of the triangular head of a bull with two very long horns. In many ancient cultures, the horns were a symbol of fertility and bountiful riches. But what is most interesting is the cluster of seven stars at the end of the higher horn. This cluster, the Pleiades, or seven sisters as it is known in some cultures, is one of the most commonly known group of heavenly objects, referenced by at least 28 different cultures. This includes two mentions in the Bible. It is also seen in the symbol of the car company Subaru, which is the Japanese word for the Pleiades, but with only six stars. But one of the most interesting stories comes from the Native Americans. The legend tells of seven maidens who were being pursued by a ferocious bear. Kneeling to pray for help, they called on the gods, who raised the ground where they were standing high

into the air. Angered, the bear clawed at the earth in a vain attempt to reach them. After leaving huge claw marks in the unyielding earth, the bear finally gave up and retreated. The maidens were turned into stars and placed in the sky forever out of harm's way. The site of the raised ground is what is now called the Devil's Tower in Wyoming.

Orion-The Hunter

Orion is the next winter constellations to appear. It rises out of the southern sky around late November and stays until early March. Some stories say that Orion is fighting the Bull, who is protecting the seven sisters from Orion's unwanted affections. But like most of these myths, there are several variations. The most common story tells of Orion bragging of his prowess as a hunter. But his bragging was cut short when he battled the Scorpion (represented in another nearby constellation), only to find its armor was impossible to penetrate with a sword or arrow. The Scorpion killed Orion and the great god Zeus placed Orion in the sky. The three bright stars that are most recognized in the Orion constellation make up his belt.



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Canis Major (Big Dog) and Sirius

Canis Major is the largest of Orion's two hunting dogs (the other being Canis Minor). This constellation appears in mid-December to early January. Sirius, the brightest star in the winter sky, is also known as the Dog Star. It's actually two stars that appear so close together, that they look like one. Its appearance in the sky marked the Greek New Year.

Other winter constellations include Cancer the Crab, Leo the Lion, Hydra the Dragon, and the Lynx.

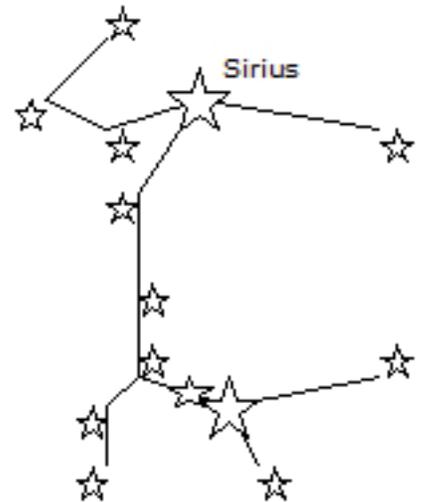
Ohio has some fantastic spots to view these constellations. One of the most unique is Observatory Park, part of Geauga County Parks. At its dedication in 2011, Observatory Park received permanent distinction from the International Dark-Sky Association as a Dark Sky Park, one of only 15 Dark Sky Parks in the U.S. and 20 in the world. The park features a telescope, downward facing lights and is dedicated to night time observations of the sky. You can find more information and upcoming programs on their website at

www.geaugaparkdistrict.org/parks/observatorypark.shtml

So, get out and enjoy some of the beauty and wonder of Ohio's winter night skies. And keep an eye to the sky for the upcoming meteor showers. There are several meteor showers active in April.

Find more information online at www.amsmeteors.org/meteor-showers/meteor-shower-calendar/

Article was originally published in the winter edition of the Wild Ohio magazine, 2005.



Winter Snow Days

***By Laura Schetter, Environmental Educator,
Wildwood Environmental Academy***

Last school year I was just as excited as the kids for the first few snow days. I can admit to joining in the fun of wearing my pj's inside out and any other snow dance traditions to bring the snow. Yet, when the grand total hit 14, more snow days than I'd had cumulatively over my ten years of teaching, challenges lessened my enthusiasm for snow days. Challenges included curriculum pacing, reestablishing routines, rewriting lesson plans, and skill retention. The very first week of 2015 has already brought 2 snow days, so teachers are preparing how to dodge the challenges of last year's extensive snow day total.

Since the teacher is held responsible for fitting everything in and hitting all standards, my fellow teachers and I found ways to teach those standards despite the snow day total. There are two ways to time delivering make up work: in advance or afterwards. If the forecast showed likely snow days, I prepared an activity that students could do at home. Alternately, for unexpected snow days, I created more fun homework assignments to make up skills. After several snow days (or in preparation of upcoming snow days), sending home a "blizzard bag" is an interesting way to catch kids up on missed skills. Ideas for this small tote bag include: make-up assignments, extra practice, small books to practice fluency, journals to write about snow day activities, nature journals to record snow day weather and wildlife observations.

4th grade teacher Ms. Bri Schmitz has a class website to optimize communication with families. Parents and students know to check this on snow days. At home practice for snow days is listed on this website including writing prompts, math fact game websites, and Khan Academy check-ins.

Kindergarten teacher Mrs. Adrienne Navarre is prepared to keep her young minds actively learning on snow days. She sends home ideas for fun family activities including recipes to make snow ice cream and how to grow snowflakes. Before high chances of snow days she makes fun home learning games like hide and seek sight words. The directions tell parents to hide 10 sight words flash cards around the house. When kids find the word they glue them onto a snowball and bring to the teacher the next school day.

Quick web searches can enhance your nature unit with at home family activities. For instance, February 13-16 is the Great Backyard Urban Bird Count, a simple bird watching citizen science family activity.

Don't let snow days stress your curriculum pacing – be prepared with ways to engage your students in learning at home.



Do Animals Get Cold in Winter?

By John Windau, Wildlife Communications Specialist, District Two, Findlay

Whenever the bottom falls out of the thermometer and temperatures hover close to zero, or below, we at the Ohio Division of Wildlife start to receive quite a few calls from concerned people about the fate of their favorite wildlife species. So, what about our native wildlife that are exposed to this weather? It may be surprising, but for the most part, they are just fine. It is easy to personify, or bestow human traits upon wildlife, particularly species we are fond of. However, it is important to remember that native species of wildlife are well adapted to deal with winter conditions. Although the past few years have been extreme, these adaptations have developed over thousands of years and thousands of winters. These adaptations can be classified into two groups: structural or behavioral.

Structural adaptations are physical traits, handed down through genetics, that help an animal better survive in its environment. In the case of winter conditions, an obvious example for most mammal species is the pelage, or their covering of hair or fur. In fall, most mammals in Ohio replace their thinner summer coats with a dense winter coat. This is why furbearer trapping seasons are scheduled for late fall and winter. These thick coats are comprised of two layers, an inner dense undercoat which traps air and provides warmth, and an outer layer of guard hairs to repel moisture, protect the undercoat, and provide camouflage.

Have you ever noticed that the northern members of a species seem to be a bit larger than their southern counterparts? For example, a rabbit in Arizona is going to be much smaller than a rabbit in Ohio. It has to do with how their bodies deal with heat. In the south where summers are very hot, bodies need to remove heat in order to protect vital organs, while in the north the opposite is required, heat needs to be retained during the cold months. So how does size help? Think of a cube. For every one additional increase of surface, the volume increases three fold. So the larger and stouter northerly animals have more mass relative to surface area to protect internal organs. Likewise, the thinner and lanky southerly versions often have larger surface areas, such as larger ears, in relation to their volumes to help dissipate heat.



Ashley Hockenberry, ODNR Photo Gallery

Some species learn adaptations from their parents. Just like Eskimos, many species of wildlife, particularly game birds like ruffed grouse and pheasants, rely on snow for insulation and to protect them from the harsh winds. They will bury themselves in a snowdrift to shelter from the wind and cold. But, when woodlots and fence rows are removed, the wind driven snow continues on rather than forming snowdrifts along the fences, leaving these species susceptible to the elements. Similarly, some animals, like chipmunks and squirrels, learn to cache or store food for winter. They will hide their supplies.



David Tarr, ODNR Photo Gallery

Behavioral adaptations are ways an animal reacts to changes in its environment that help it better survive. Hibernation is a behavioral adaptation that is ingrained in some species. These species have no choice whether or not they hibernate. Hibernation is a prolonged state of inactivity with lower body temperature, slower breath and heart rate, and sometimes very low metabolic rate. In Ohio, groundhogs and bears are some of the few mammals that enter hibernation. Other species, like skunks and raccoons enter a lesser form of hibernation called torpor. Animals in a state of torpor are similar to those in hibernation, but for only a short amount of time, such a few hours or a few days. Often, these animals will “sleep” during periods of severe weather and emerge once the weather breaks. These two adaptations help an animal conserve energy. Low metabolism and slowed bodily functions expend much less energy that they can save for when the weather clears up and they can get out to look for food.



*Christopher Brinkman
ODNR Photo Gallery*



*Rachelle Meyer
USDA Forest Service*

Some species have adapted other ways to cope with unfavorable weather. Many species of birds choose to avoid the cold altogether and fly to areas where food is abundant. Migration is an adaptation to capitalize on the seasonally abundant food sources as they occur in different regions of the world.

Continued on next page

Do animals get cold....

Still, there are some native species, which are not very tolerant of Ohio's weather patterns. Often, these species are better adapted to other regions of the country and the edges of their home ranges spill into Ohio. These species are called edge species, since they are not fully adapted to survive in the area. The Northern bobwhite quail is one example of an edge species in Ohio. The numbers of Northern bobwhites in Ohio are subject to dramatic fluctuations due to winter weather conditions. Their populations often increase during mild winters while prolonged snow cover and below normal temperatures may decimate quail populations. On the other hand, Ohio is at the southern edge of the snowshoe hare's range. Ohio's relatively "mild" winters mean that the species was probably never abundant here and historically snowshoe hares were likely confined to the Snow Belt region in the extreme northeast corner of Ohio.



ODNR Photo Gallery

In the end, every species has adapted unique ways to help them survive in their environment. For Ohio's wildlife that includes winters just like the one we are experiencing this year. Although, to some these conditions may seem unbearable, most all of the native wildlife species are well adapted to these conditions. For more information about a particular species that interests you, visit the species guide index <http://wildlife.ohiodnr.gov/species-and-habitats/species-guide-index>.

Great Winter Resources

Snow enthalls kids like no other weather event. Sure, there's the possibility of school being closed, but there's also the enchantment of snowflakes, the thrill of sledding, and the fun building snowmen and making snow angels. You can capitalize on this fascination with these resources for teaching kids about snow and winter weather:

Changing Seasons

http://www.education.noaa.gov/Climate/Changing_Seasons.html

Cold, Ice and Snow Safety: from KidsHealth.org

<http://tinyurl.com/aoktop>

Snowflakes Under a Microscope

<http://emu.arsusda.gov/snowsight/default.html>

Martian Ice Crystals

<http://emu.arsusda.gov/snowsight/martianice/ms.html>

Water Cycle

<http://water.usgs.gov/edu/watercyclesummary.html>

Why Does the Earth Have Seasons?

<http://scijinks.jpl.nasa.gov/earths-seasons/>

Guide: Become a Weather Wizard (pdf)

http://spaceplace.nasa.gov/en/educators/weather_maps.pdf

Guide: Winter Storms (pdf)

www.nws.noaa.gov/om/winter/resources/Winter_Storms2008.pdf

Guide: Extreme Cold (pdf)

www.bt.cdc.gov/disasters/winter/pdf/extreme-cold-guide.pdf

Photos: Weather and Climate Gallery

<http://climatekids.nasa.gov/weather-and-climate-gallery/>

Know Your Snow

Have you ever looked closely at a snowflake? There are many different crazy crystal shapes including prisms, plates, columns, needles, rosettes and more.

www.snowcrystals.com has great pictures on the many shapes of crystals and also a primer on snowflake formation, including the relationship with temperature, and even myths and other nonsense. You can even learn how they take such great pictures of snow flakes.

Next time it snows head outside and see what you can find.



What region of EECO are you in? And, who is your local contact?

EECO Regional Directors

Region 1 - Central Ohio
Linda Pettit, Franklin SWCD
T:614-486-9613
linda-pettit@franklinswcd.org

Region 2 - NW Ohio
Jennifer Elsworth, Metro Parks of the Toledo Area
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dwrench@earthdaycoalition.org

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