

NEWSLETTER

Winter 2023



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DECEMBER PHENOLOGY

Today marks the first day of December. The last few weeks of autumn give way to winter. Animals must ensure they have prepared for the winter's scarce resources or hibernation. In Mary Hollands Naturally Curious: A Photographic Field Guide and Month-by-Month Journey through the Fields, Woods, and Marshes of New England December is the month of signage:

Many creatures have disappeared from sight. Those that remain include "feeder birds," whose interactions present an opportunity to assess hierarchy within a flock as well as between species. While there are fewer mammals around, the signs of those that remain active are more evident and change daily. As soon as the first snow falls, animal signs---be they tracks, scat, scent posting, feeding holes, or markings of any kind---offer the observer an intimate look at animal activity. Plants, for the most part, are dormant, with next year's growth safely sealed within protective buds awaiting lengthening days.

Most amphibians and reptiles are hibernating beneath the mud, soil, leaf litter, and at the bottom of ponds. Many mammals have gone into hibernation, and many birds have migrated to warmer places in the south. As things quiet down in the New England forests, you can really notice the activity that continues into the winter, and the subtle signs of foraging, hunting, and season specific behaviors.

Some locals who stick around for winter are the Hairy and Downy Woodpeckers. You will still hear them pecking away for insects or larvae in trees and branches. They are able to keep warm in the winter due to their plumage, which insulates them well from colder winter temperatures.



Pileated Woodpecker by Steve S. Meyer

Another woodpecker you will see is the iconic Pileated Woodpecker. The Pileated Woodpecker is searching for carpenter ants in the heartwood of standing dead trees. Large holes are excavated to access the center of the tree where they will scrape out carpenter ants to feed. After the Pileated Woodpecker is done feeding, the holes excavated may become used as homes for white-footed deermice.

Predators are also on the hunt for a meal this winter too, the Cooper's Hawk is one searching for their next meal. Cooper's Hawks are classified as accipiters, meaning they are "birds of prey with short, broad, rounded wings and a long tail that helps them maneuver in the forests where they often reside." They are skilled at ambushing prev which are commonly birds or small rodents. Another hunter you may see signs of is the Red Fox, whose tracks cut through the woods on the snowy ground. Due to the Red Fox's fluffy foot, their tracks are often hard to distinguish, rather we look at the pattern of the tracks to identify the fox. They often leave a straight-line pattern because their hind feet follow their front feet directly in their gate. It's easy to distinguish a fox, coyote, or wolf from a domesticated dog, since a dog's tracks are much more scattered, and wandering than a wild animal who must conserve energy. Dogs have it easier and need to get out as much energy as possible.

Less appealing signs of activity include scat, a sure way to identify what has been around. White-Tailed Deer can vary due to seasonal diets. Often in the winter small dry pellets can be found in the snow or on the forest floor. A Fisher, who is a predator, will have scat that almost resembles cat droppings. A fisher uses their scat to spread their scent and mark their territory.

It's not common to think about insects in the wintertime as we don't see bugs this time of year, but where do they go when the temperature drops. In the case of the Bagworm Moth, the next generation overwinters in their eggs, made from plant matter woven into "bag". а Carpenter Bees nest in holes in wood for the winter while they go dormant. If you see perfectly round quarter inch holes in wood or logs on the forest floor, chances are there are dormant carpenter bees inside.

As life quiets in December, it's important wildlife persists. The cycle of rest is necessary for this ecosystem and climate to maintain a healthy balance.

SUSTAINABLE

Land-Use Practices



Left: Auburn River Walk

In our communities, both urban and rural, it is imperative to consider how development plays a role in conservation efforts. Without a responsible framework, development can impede conservation goals, and damage local ecosystems, such as a watershed. Fortunately, we are not alone in finding a balance between development and conservation. Frameworks, policy, design principles, and research are abundant in sustainable land-use planning. Sustainable land-use planning is defined as ensuring land management practices integrate land, water, and natural resource management to meet human needs while insuring long-term sustainability of natural resources, ecosystem services, biodiversity, and livelihood. Within the framework of sustainable land-use planning, lie several other methods which all work to help the human environment become less impactful, and create a better quality of life. Sustainable development practices enhance watersheds and forests to produce goods and environmental services that improve the welfare of people now, while preserving the environment and natural resources for future generations. Low impact development, Smart Growth, Hazard Mitigation, EcoDistricts, Local policy and ordinances, and property owners can all play a role in ensuring sustainable development goals are met.

When addressing water quality and storm water issues in a more developed area, such as urban and suburban neighborhoods, Low Impact Development (LID) can mitigate challenges these places face. Low impact development refers to a variety of practices that help the built environment mimic the natural processes found in nature. The EPA defines LID as "an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product." The Maine Department of **Environmental Protection also recommends** the use of the LID framework to promote sustainable development. The strategies that compose LID include; minimizing impervious surfaces, limiting areas of clearing or grading, and managing stormwater at its source. Impervious areas increase the amount of runoff as vegetation is absent and water cannot be absorbed into the ground. Reducing the amount impervious surfaces will reduce runoff. Some impervious surfaces are unavoidable, but adding separation between these areas where water can be slowed down and infiltrated can be beneficial. Rain gardens, dry wells, and level spreaders are some examples of green infrastructure that, when implemented, prevent the flow of stormwater runoff directly into a discharge point thus reducing non-point source pollution into our watershed.

By limiting areas where land is cleared or graded, predevelopment conditions are preserved. This minimizes land disturbance. Areas such as wetlands, floodplains, steep slopes, streams, and lake fronts should be preserved with undisturbed buffers. To protect the preserves, identifying them in development plans, deeds, and in the field is important. Another LID strategy is to manage stormwater at the source. Reproducing the natural function of a landscape can help manage stormwater during peak-flow periods to not overwhelm the end-of-pipe treatment system and slow the stormwater down. Maine DEP recommends LID infrastructure such as vegetative buffers, filters, bioretention cells, rain gardens, Infiltration basins, roofline filters, trenches, dry wells, porous pavement such as porous asphalt, block pavers, plastic grid pavers, rain collection cisterns, and rooftop greening.

Smart Growth is another sustainable development framework which can aid in the protection of watersheds. Typically used when making municipal or urban planning decisions, Smart Growth can help communities grow in a way that protects the natural environment, fosters economic growth, and builds stronger communities. There are ten principles of Smart Growth: Mixed land uses, compact design, diversify housing options, walkability, sense of place, open space preservation, incorporate farmland, protect natural beauty and critical environmental areas, direct development toward existing communities, transpiration variety, be fair, predictable and cost effective in decision making, encourage community and stakeholder participation. When applied, Smart Growth generally benefits the quality of life and environmental quality of cities and communities in several ways.



Maine Mill, Lewiston

When communities become denser and have a variety of choices for transportation, then car journeys become less frequent due to shorter distances needed to travel, and air quality is often improved due to less air pollution from automobiles. Smart Growth principles also make communities more resilient in the face of climate change. Compact development, enhanced public transportation, low-impact building practices. and energy efficient buildings all help reduce the hazards of climate change. Additionally, green infrastructure and permeable surfaces mentioned in LID help prevent flooding from rain events. Often, LID principles are applied to Smart Growth, so including LID in addition to Smart Growth principles can improve water quality. Communities with old industrial sites and brownfield areas can benefit from these sites being adaptively reused and redeveloped. Brownfields are abandoned, idled, or underused industrial and commercial properties where redevelopment is complicated due to contamination. Cleaning up and redeveloping a brownfield can remove blight and environmental contamination, catalyze neighborhood revitalization, lessen development pressure on undeveloped land, and use existing infrastructure. It's also important to conserve open space and natural areas within communities. Preserving natural lands and waterways, and encouraging growth in existing communities, protects farmland, wildlife habitat, outdoor recreation, and natural water filtration that ensures clean drinking water.



Green Stormwater Infrastructure, in Minneapolis, MN

Considering potential hazards and how to mitigate them is also essential in balancing watershed protection with development. When developing land, we must consider scenarios in which a weather event such as a storm occurs and how the land may be impacted, and how development of the land may impact the area overall. FEMA defines hazard mitigation as "any cost-effective action taken to eliminate or reduce the long-term risk to life or property from natural or technological hazards."

A new framework on the scene is EcoDistricts. Like some Smart Growth principles mentioned earlier, EcoDistricts take a more local approach and focuses on three imperatives: equity, resilience, and climate protection. Additionally, there are six other priorities within the EcoDistrict model: place, prosperity, health and wellbeing, connectivity, living infrastructure, and resource restoration. With three implementation phases: formation, roadmap, and performance. This creates an encompassing roadmap to developing cohesive, climate resilient, low-impact communities. The goal of an EcoDistrict is to integrate sustainable development and social equity.

Here in Maine, there are ordinances adopted by communities depending on their situation that must be followed regarding development and stormwater runoff management. Since all natural surface waters are at risk of the harmful effects of stormwater runoff, effective pollutant removal is necessary for all stormwater management systems. Additionally, ensuring that the stormwater runoff in treatment systems must remain at cool temperature at or below 22 degrees Celsius. Channel protection is also a required ordinance. Constructed stormwater management systems should minimize the duration and magnitude of stormwater discharge from a developed site to prevent stream bank erosion and sedimentation of downgradient stream channels. By protecting channels from erosion and controlling floods downstream infrastructure is less likely to become overwhelmed when these rain events occur. However, these events are becoming more frequent and more intense. Maine DEP says traditional flood control is unnecessary when discharging to natural bodies of water, however this does not seem to be sustainable, or responsible.

More holistic approaches have been taken to control these events such as wetland. floodplain, and river restoration projects. Rivers have a natural response to these events, and humans must restore this function, and develop floodplains and areas which allow the natural ebb and flow of waters to occur responsibly. Parks and preserves are a great way to allow use of the land without building infrastructure that can be damaged, destroyed or harm the watershed. Maine DEP includes vegetative buffers and underdrained soil filter basins as the best management practices to slow the flow of stormwater and remove pollutants. They also recommend infiltration systems, and wet ponds with underdrained gravel benches. Throughout Maine different towns adopt floodplain management ordinances depending on flood hazard identification maps provided to the community by the Federal Insurance Administrator. Communities that are part of the National Flood Insurance Program (NFIP) are required to adopt an ordinance so residents can access flood insurance. In addition to ordinances adopted by municipalities enrolled in the NFIP, to protect the investment and property of residents, towns can also adopt environmentally focused ordinances to further protect the hydrology and health of the environment. Some examples of environmentalfocused ordinances include steep slope ordinances, natural resource protection ordinances, conservation zoning, agriculture zoning, and tree ordinances.

Municipalities obviously have a commitment to ensuring responsible development, and should take measures steps further and adopt more progressive goals in efforts to protect natural resources and improve the quality of life for residents, but what can property owners do to help ensure that they are balancing their development with watershed protection?



Maine Salt Marsh

Property owners can build away from streams, wetlands, or other natural resources, protect open spaces, create an easement (legal agreement that limits use of land) around streams or other important natural features, and plant forest buffers on both sides of streams in efforts to mitigate environmental harm on their land and take sustainability practices in their own hands! In some place municipalities can incentivize this by offering tax credits, and other benefits for landowners who practice sustainable land-use.

There is so much that can be done to help balance watershed protection and development, and cities and communities across the country and slowly catching onto why it's so important. From improved quality of life, economic revitalization, improved social equity, to improved environmental quality, the reasons not to adopt these principles are few. It is important to speak up in your community, get involved in the process, and make your voice heard. To establish these frameworks, we need movers and shakers to convince our community leaders to adopt these more holistic environmentally conscious initiatives and make our communities stronger, and more resilient.

WATERSHED RESTORATION

Four watershed restoration projects from around the world.

Androscoggin River Restoration, Maine

In 1972, Senator Edmund Muskie of Maine helped draft and pass the Clean Water Act. He was inspired to ensure Americans have access to clean waters after growing up near the polluted Androscoggin River. Today, parts of the Androscoggin River are still not up to Clean Water Act standards and work is still being done to clean its waters.

The Androscoggin River has been struggling with pollution from Pulp and Paper Mills, a milling process that has many harmful by-products, including dioxins which can cause serious issues for ecosystems, food systems, and human health. Dioxins are produced by the burning of chemicals containing chlorine. Dioxins are known to be endocrine disrupters, which disrupt our hormonal systems by mimicking natural hormones in our bodies. If these chemicals get into a water source, it can cause great harm. Considering biomagnification, crops, fish, and livestock exposed to dioxins and consumed by humans can cause numerous health problems. Those at the highest risk are developing fetuses and nursing infants, and fish consumers.

In 2022, the Maine Legislature passed a bill to upgrade 800 miles of Maines waterways. This included some of the Androscoggin River. The Natural Resource Council of Maine (NRCM) has worked hard over the years to stop the pollution into the Androscoggin through advocacy, appeals, and lawsuits. In 2007, NRCM sued International Paper to take on their Mill in Jay, Maine and appealed their river discharge permit. Since then, cleaner technologies exist to reduce pollution and lower production costs. Today, much of the Androscoggin River is clean and safe to fish in and recreate, although there is still work to be done.









Skjern River Restoration, Denmark

The Skjern River restoration project is one of the largest restoration projects in northern Europe at about 2,200 hectares in scale. The project aimed to return a river modified for agriculture and irrigation to its natural winding and meandering state. The Skjern River is in western Denmark on the Jutland peninsula and feeds into the Ringkobing Fjord.

In the 1960's, the Skjern River's natural shape was disfigured. It was straightened, deepened, and embanked to convert the land for agricultural purposes, and dikes and drainage channels were constructed to lower the groundwater level. The project sacrificed 4000 hectares of wetlands, meadows, and shrubland. The new prairie ecosystem and agriculture uses caused a myriad of issues. Floodwater no longer breached the banks, and pesticides were liberally used. The previous landscape was successful in sinking nutrients back into the ground, but now it acts as a channel to bring nutrients and pollutants straight to the Ringkobing Fjord. Due to oxygen exposure, the peat-rich soil sank, rendering the constructed drainage ineffective. This caused the water to become filled with toxins to fish and other organisms and turn bright red.

Between 1999 and 2002, construction took place. Dikes were removed, old channels filled with soil, and a new meandering river course was excavated, bringing the length of the river to 26km (up from the straight 19 km). Multiple outflows were built, creating a delta into Ringkobing Fjord approximately 220 hectares in size. In addition to construction and removal of old infrastructure, the plan was to allow natural flooding patterns to occur and allow riparian areas to reestablish.

Some dikes were constructed to protect small towns along the river, but they were placed to ensure flooding only happens in the natural flooding area. The final phase of the project was completed in 2005 when facilities for the public, trails, and educational materials were implemented. The project was successful and these lands have become essential on migration routes for birds. The removal of dikes and dams have benefitted fish populations as they now can move freely. The groundwater level is no longer being lowered by pumping, so the leaching of ochre sediment in the project area has virtually stopped. At high water, floods inundate the surrounding meadows, depositing nutrients emitted by agriculture and aguaculture facilities. The project area now offers ideal conditions for flora and fauna and has already acquired great natural value. In fact, it has already grown into a bird site of national importance. Birds began arriving by the thousands almost as soon as the excavators left the area. Since then, no fewer than 212 different bird species have been registered in the area, and more are being added to the list all the time. The new natural area is an important staging post for many bird species on their way between their winter quarters in Southern Europe and Africa and their breeding grounds in the north and east.

Bog, Woodland, and Residual Alluvial Forest Restoration, Scotland

The Wet Woods LIFE conservation project was an initiative funded by the European Union's LIFE Nature Program that took place between 1998 and 2002. The goal of the project was to improve some of the most important wetland, bog, and floodplain ecosystems in the UK. The project generally included removal of non-native trees, thinning of Scots Pine, and damming of drainage canals altering hydrological conditions.

The problem the Wet Woods LIFE project is looking to address is issues relating to degradation of the hydrological system due to human land-uses, which in turn has negatively impacted ecosystem health and water quality. Fertile lands where alluvial forests once stood have been cleared for agriculture and grazing, and upstream drainage has impacted essential seasonal flooding patterns, making water quality worse.

Additionally, non-native trees have displaced native vegetation and have led to the decline of Wet Woods.

Restoring wetland habitats by reinstating natural hydrological systems, restructuring plantation forests, creating riparian buffer zones of native woodlands, removal and control of non-native trees, employing remote sensing strategies and research to inform restoration, monitoring and management of wetlands are all strategies that were used in this project. Additionally, educating local organizations and communities on wetland conservation, and partnering with landowners helped ensure this project is not forgotten. The project was successful, and today no areas need major remediation work. Monitoring continues, and relationships continue to be strengthened in the communities between landowners, conservation organizations, and municipalities.

The Restoration of an Urban Floodplain, Rahway, New Jersey

The Rahway River Watershed is a highly urbanized watershed, and one of the longest continuously urbanized watersheds in New Jersey. Between 1994 and 2005, a remediation project took place to restore the Rahway River floodplain and create a corridor to be included into the Union County Parks System as a Wetlands Observation Area to restore hydrological function, minimize flooding, create public access, provide water retention and filter out pollutants.

Due to the long history of land use and modification by humans, the watershed has essentially lost its ability to function properly. The development of the area has led to flooding that causes damage to homes and businesses in the area.

By looking at historical accounts and maps of the watershed, planners decided to interpret and adapt their plans to match the original function as well as they can. The main goal of this project is to restore the floodplain to its predevelopment condition. To restore the floodplain, it must provide wetland mitigation, and enhance and expand wildlife habitat and green space within the urban area.

Each of these projects met their goals by employing conservation strategies such as restoring riparian buffers, researching historical function of the watershed to understand how long-affected watersheds functioned prior to anthropogenic modification of the landscape, and creating a coalition of stakeholders including communities, local and regional government, and conservation organizations. Additionally, infrastructure, policy, and monitoring of the project areas were employed. Through a deep understanding how natural hydrological function works, and why it is important to restore and conserve it watersheds around the world can provide clean water, mitigate flooding, and countless other invaluable benefits to nature and humankind.

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THE BIODIVERSITY CRISIS

A Closer Look at a Global Challenge

Biodiversity plays a key role in maintaining a healthy ecosystem. Auburn and Lewiston lay in the most biodiverse bioregion of interior Maine, known as the Central Maine Embayment. The Central Maine Embayment stretches from the Androscoggin River Watershed east toward Bangor, and north from Midcoast Maine toward the Aroostook Hills. The region features rolling plains, hills, lakes, swamps bogs, and forest. So, what is 'biodiversity'? Biodiversity is the variety of life in the world, or in a particular habitat or ecosystem. Typically, biodiversity is broken down to three levels: genetic diversity, species diversity, and ecosystem diversity. These three levels compose the complex web of life on earth, or in a localized ecosystem.

The current situation we find ourselves in regarding biodiversity is known as the "biodiversity crisis" which is defined by Earth.org as the loss of life on Earth at various levels, ranging from reductions in the genetic diversity to the collapse of entire ecosystems. A 2021, a UN report found that biodiversity is declining at a dangerous rate and will continue to accelerate in the coming years due to human activities and impacts. It is estimated that one million of the eight million known species on Earth are considered threatened. Threatened species are species whose population is at a greater risk of extinction. That is approximately twenty five percent of all species on Earth.

As we grapple with the biodiversity crisis all over the world, the Central Maine Embayment has been impacted by specific challenges. The region is the most populated in interior Maine, thus there is more infrastructure such as roadways, developments, and agriculture; leading to habitat fragmentation, deforestation, and movement of non-native species. Several studies document that biodiversity is lowest in the built environment (meaning buildings, and sealed surfaces such as roads) within the urban core. Substantially less species are found in cities than in natural areas outside the city limits, such as a preserve. Studies point to the reduction in vegetation being the main driver of the reduction in species within cities (McKinney, 2002). Within Suburban development it is common to see an increase in biodiversity compared to urban areas due to less density and lower impact. However, there is also evidence that suburban areas decrease biodiversity.

It is more common to find non-native and invasive species in suburban areas used for ornamental purposes rather than a healthy working ecosystem. Such non-native plants are less suitable for native insects, birds, and animal taxa (McKinney, 2002). In growing suburban areas, active development poses the greatest threat to biodiversity and devastates existing ecosystems, and even causes localized extinctions (McKinney, 2002). Construction on new developments also prevent successional ecosystems, which are ecosystems which pop up after an ecological disturbance such as a wildfire, storm, or deforestation.

There are some effective conservation strategies to help protect native biodiversity. The cheapest, and easiest option is to preserve natural areas and as many fragments of native ecosystems as possible. Preserving native ecosystems provides countless services that benefit the environment, as well as human well-beings, and the economy. The next option is to restore native ecosystems that have been disturbed by human activities. This can be difficult, and expensive; however, not in every case. When human development disturbs an area, and the space is no longer needed, it can be restored ecologically. The human disturbance can be mitigated to allow a successional ecosystem to form, which is typically very biodiverse. Additionally, these areas reduce the diversity of non-native species. Another approach is restoration and cultivation of a particular plant species. Cultivation in a managed habitat is a great way to increase biodiversity and benefit other native plant and animal species.

The greatest threat to biodiversity in this region is invasive species, which are non-native plants or animals that naturalize to their new environment and cause ecological, social, or economic damage. Some examples of the impacts of invasive and non-native species include invasive plants like Asiatic Bittersweet, which chokes out the plants in the understory, then climbs and weighs down essential trees and spreads with ease throughout a forest taking root and pushing out native competitors such as American Bittersweet. Emerald Ash Borer poses a risk to the Ash trees in New England forests, and in our cities as it is a common street tree. Variable Leaf Milfoil poses a threat to water quality and native aquatic plants found in lakes across Maine. These examples pose great threats to ecosystem health, which in turn leads to habitat destruction, and fewer species.



Scarring from Emerald Ashe Borer - John Ehlke

A non-native tree also holds less capacity to supply habitat than a native tree. The National Audubon Society uses Oaks and Gingkoes as an example of this. Where a native Oak tree may support over 500 species of native caterpillars, a Gingko may only support five. Meanwhile, a brood of chickadees needs 6,000 caterpillars to succeed. Protecting and preserving Maines native species supports a broad ecosystem, and web of life. Protecting the diverse array of plant life, in turn protects our fauna and makes for a healthier ecosystem in the watershed.

Like the solutions mentioned previously, the best ways to combat biodiversity loss is to preserve healthy biodiverse ecosystems, and to restore ecosystems and reforest degraded forests and woodlands with indigenous species. Additionally, it has been found that actions to halt biodiversity loss benefit the climate (Shin Et al., 2022). Urban centers, suburbs, and development projects have several impacts on biodiversity and contribute to the crisis we are facing globally, however there are solutions that can help if implemented properly.

Nature has the capacity to heal, and humans must adapt our activities and way of life to be more sustainable and reflect the complex web of things that keep the ecosystem in balance globally. By getting involved in your community to help push measures that ensure natural areas are preserved, and to help get funding moved toward conservation and ecological restoration in your community, a big step can be taken locally to keep biodiversity high and the environment healthy in your community.

Academic.Oup.Com, academic.oup.com/bioscience/article/52/10/883/354714. Accessed 12 Sept. 2023.

"Central Maine Embayment." Bplant.Org, bplant.org/region/1107. Accessed 12 Sept. 2023.

"Central Maine Embayment." Forest Ecology Research Network, 11 Dec. 2020, mainefern.org/biophysical-regions/bioregion-central-maine-embayment/.

Cronin, Ben. "The Ecoregions of Plymouth County." The Ecoregions of Plymouth County - by Ben Cronin, The Plymouth County Observer, 11 June 2022, plymouthcountyobserver.substack.com/p/the-ecoregions-of-plymouth-county.

Lai, Olivia. "Biodiversity Loss Definition and Examples." Earth.Org, Earth.Org, 15 Feb. 2022, earth.org/biodiversity-loss-definition-and-examples/.

"Native Plants and Biodiversity." Illinois Extension, 10 May 2019, extension.illinois.edu/blogs/garden-scoop/2019-05-10-native-plants-and-biodiversity.

Section 3.3 Biodiversity - Hudson River Sloop Clearwater, www.clearwater.org/wpcontent/uploads/2009/09/Section-3.3-Biodiversity.pdf. Accessed 14 Sept. 2023.

Shin, Yunne-Jai, et al. "Actions to Halt Biodiversity Loss Generally Benefit the Climate." Global Change Biology, U.S. National Library of Medicine, May 2022, www.ncbi.nlm.nih.gov/pmc/articles/PMC9303674/#:~:text=Reforestation%20or%20restoration%20of%20degraded,that%20allow%20to%20re

"UN Report: Nature's Dangerous Decline 'Unprecedented': Species Extinction Rates

RECAP:





Autumn Nature Walk

On Saturday, October 14th, we hosted an Autumn Nature Walk lead by Maine Master Naturalists Ruth Leavitt and Sue Ford. Walking along Whitman Spring Road on a sunny autumn day provided amazing conditions for the walk. Ruth and Sue thoroughly covered focal plant species found around Lake Auburn, and the changes observed in the fall through sight, sound, and smell. Additionally, the walk covered the history of Whitman Spring Road and the Mineral Spring House.

Beginning the walk at the northern entrance to Whitman spring road, the walk meandered down the trail. stopping at notable points for time to discuss what certain attributes plants along the trail were exhibiting, such as the Heart Leaved Willow (Salix enicocephalid), which was host to the Willow Pinecone Gall Midge, or to notice the Quaking Aspen (Populus tremuloides), whose leaves shook side to side in the breeze, giving the Quaking Aspen its name, or to stop and talk about the exploding seed pods of the Witch Hazel (Hamalelis virginiana), and offer moments to ask questions, make connections, and comment.

During the walk, we spotted some carved pumpkins placed on the stone foundation off the side of the trail. This offered a great opportunity for some festive October photos for attendees. We then continued onto the Hotel Loop where we discussed Lake Auburn's history and the Mineral Spring House, as well as the opportunity to learn about nurse logs, identify trees, and take in some wonderful views of Lake Auburn.

Keep an eye out for upcoming events this winter to continue to learn about the Lake Auburn watershed in wintertime!







2023

COMMISSION WRAP UP

A LOOK AT THE PAST YEAR

2023 was a big year for the Lake Auburn Watershed Protection Commission. We had a ton of great events, welcomed new faces, and continued our work to protect Lake Auburn's clean water. Through active planning, cooperation, education, and collecting data, Lake Auburn remains a prime example of what watershed protection can do for our natural resources, and our communities.

In 2023, we welcomed two new LAWPC Commissioners: Heather Hunter, who represents Lewiston, joined us in January, and Brad Kowalski, who represents Auburn, joined us in October. We also welcomed our new Education and Outreach Coordinator, Dylan Hertzberg, in July.



Important dates for the lake this year: Ice-on 2/1/23, ice-out 4/12/23, fall turnover 11/11/23

Winter events:

2/15 Pre-School Story Time: Trout are Made of Trees + Lake Mural, Auburn Public Library 2/16 Edward Little High School field trip 2/22 Winter Wildlife Walk with Ben Nugent, Summer Street Conservation Easement 2/23 Chewonki: Predators Presentation, Lewiston Public Library

Spring events:

3/20 Seeds of Spring: L/A Celebration, Lewiston Public Library

3/24 AVEC field trip

5/19 North Spore Mushroom Demo, St. Mary's Nutrition Center

6/2 AVEC field trip, build little free library and plant native plants, Tot Lot

Autumn Events:

9/23 Trails Day at Salmon Point

10/14 Autumn Nature Walk with Ruth, Whitman Spring Road

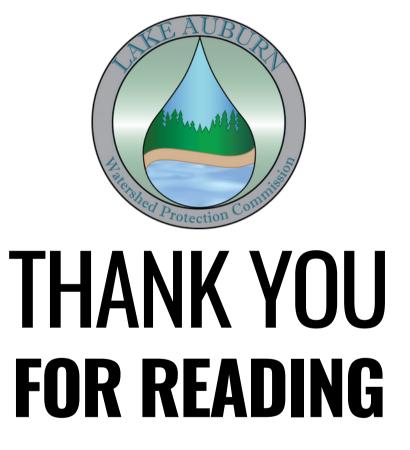
11/10 Native Plants: Seed Saving and Sowing Workshop

Keep an eye out for upcoming events in 2024!









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