

Refuge News

Winter 2012 Newsletter

A Publication Funded by Seney Natural History Association for its Members.

Seney Natural History Association

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Manager's Corner

by Mark Vaniman



I find it interesting how often I am asked "Are you guys still out here in the winter?" or "What do you do after the Visitor Center and the Auto Tour close?" Our current staff consists of 8 permanent full-time employees, one career seasonal employee and 2 intermittent employees. The

flurry of activity that most of our visitors see during the open season is the result of our semi-covert activities during the winter. We are very similar to a swimming duck – on the surface it may look like there's not much going on but beneath the surface we are paddling like mad – and, we are here all winter. I have been around long enough that I can still remember the days when the fancy office computer was an IBM Selectrix and our desk calculators weighed over a pound and only did four things. Now we are surrounded by technology. Don't get me wrong – I am as connected as someone of my era can be and I appreciate our new efficiencies. It is just a change in how we use the 'slow' months of winter which is really what I initially began writing about. Whew – I just barely avoided digressing into a rant about.....

So – what do we do in the winter? I can assure you that we don't shut down. There is equipment maintenance being carried on in the shop and inside work being done on the quarters and facilities. For instance, Rich and Matt are rehabbing the bathroom at Quarters one this winter. And, of course, they are moving snow at the whim of Mother Nature, fixing things that break and generally preparing for the field season. Don and Jim assist with trail grooming and other inside tasks. Visitor Services is busy with the winter film festival, planning for next year and providing environmental education to local schools. Gary gets busy planning for burns we hope to complete and Greg C.,

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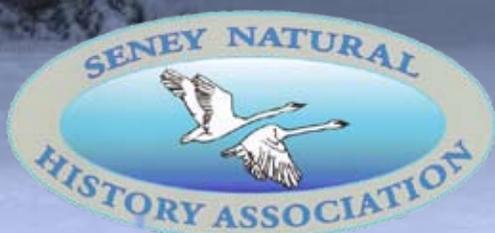


Photo: Snowy Trail. Credit: Craig Piezchalski, 2012 Photo Contest.

*Seney Natural History
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*Photo: Cattail in Winter. Credit: Sara
Giles, USFWS.*

Habitat Management Planning

by Mark Vaniman

Earlier in this publication I wrote about our winter activities. One of those activities was planning. Some of you may be familiar with our Comprehensive Conservation Plan (CCP). This plan, completed in 2009, is a document designed to guide our management efforts into and beyond 2023. These plans are required as part of the passage of the 1997 Refuge Improvement Act and every Refuge in the system is to have a CCP in place by the end of 2012. In addition to the above requirement, Fish and Wildlife Service Policy also dictates the preparation and implementation of a Habitat Management Plan (HMP) as an extension of the CCP. So, what is an HMP? It is a dynamic, working document that provides Refuge personnel with: 1) A decision making process; 2) Guidance for management of refuge lands; 3) long term vision and; 4) continuity and consistency for habitat management on refuge lands. Our plan, currently in draft form, was prepared by Refuge biologist Corace with assistance and input from staff. The plan is required to be peer reviewed in order to provide credible, independent and expert assessment of refuge habitat management and ensure that we use appropriate techniques, protocols, and processes in the management of refuge habitats. In addition to the above, there are seven remaining guiding principles for the plan. These are: 1) Use available biological and ecological principles to provide the HMP foundation; 2) Derive goals, objectives and management strategies from the National Wildlife Refuge System mission and refuge purposes; 3) Consider areas with special designations (Wilderness, Natural Areas etc.); 4) View the highest measure of biological integrity, diversity and environmental health as those intact and self-sustaining habitats and wildlife populations that existed under historic conditions; 5) Consider a range of habitat management strategies to meet specific wildlife or habitat management goals and objectives; 6) Use adaptive management to assess and modify management strategies to achieve habitat objectives and; 7) Manage invasive species to improve or stabilize biotic communities to minimize unacceptable change to ecosystem structure and function and to prevent new and expanded infestation of invasive species.

As the Refuge continues toward a broader, system based management scheme, the completed plan will be

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Nature Nut Column



Dear Nature Nut,

While hiking in the woods, I have come across trees that appear to have exploded. Could this really happen?

Signed,
A Curious Hiker

Dear Hiker,

The possibility of a tree exploding is fairly high depending on the weather conditions. There are three possible ways for a tree to explode.

The most common way for a tree to explode is during a thunderstorm. If a tree is struck by lightning the sap may quickly reach its boiling point and then expand fast enough to cause the tree to shatter. A couple of years ago I was driving along a backcountry road and saw an exploded tree. Bits and pieces of the tree could be found hundreds of feet away. Splinters of wood were blasted into the ground and into other trees, some by several inches. It was amazing!

Cold can also do the trick. Granted it has to be really cold - we are talking several degrees below zero for a tree to explode. As the sap of the tree freezes it expands while the bark contracts. This can cause the tree to develop large splits which sound like gun shots as they rent the tree. I found this quote from author Linda Runyon in *The Essential Wild Food Survival Guide* especially interesting.

"I was relaxing in front of a fire in the crispness of early morning when Crack! A sound like an explosion came from behind me in the woods. I scanned the trees and saw that a maple tree had "exploded". The explosion caused a big crack in the tree about three feet high. When a winter wind stirs the frozen trees, they sometimes appear to burst vertically. When it was 40 degrees below zero at night, I lay awake and listened

to the trees explode. That's a true wilderness thermometer!"

In the Sioux and Cree languages the first new moon of the year is even known as the "Moon of Cold-Exploding Trees."

Finally, fires can also heat sap fast enough to destroy a tree, similar to the phenomena of lighting. Have you ever been sitting around a campfire and all of the sudden you hear a pop and a small piece of flaming wood is ejected from the fire ring? This happens because of the fluids in the wood. As the temperature rises in the wood the sap begins to boil and turns to steam which builds up pressure until - pop goes the wood! Now imagine this on a larger scale. In a wildfire, trees that are still living contain the most moisture. The sap heats and expands inside the tree so fast the wood simply can't take the pressure and it explodes.

Signed,
Nature Nut



Photo: Spruce tree that was hit by lightning. Credit: Sara Giles, USFWS.

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Holly & Mistletoe

by Jennifer McDonough



Photo: American Holly. Credit: Phuong Tran, Flickr Creative Commons.



Photo: Mistletoe. Credit: Dave Knepper, Flickr.com.

American Holly (*Ilex opaca*) and American Mistletoe (*Phoradendron species*) are plants rooted among our holiday customs. These customs stem from a variety of ages and places, from ancient Druids using mistletoe in their winter celebrations to Northern Europeans using boughs of holly during Christmas. Many cultures revered these plants for their ability to remain green throughout the winter months and legends and beliefs about them abound. The species we now use for our holiday celebrations are not the same species from which the customs started and neither American holly nor American mistletoe are native to the Upper Peninsula. Our native versions of "Mistletoe & Holly" are Eastern dwarf mistletoe (*Arceuthobium pusillum* Peck) and Michigan holly (*Ilex verticillata*).

Neither eastern dwarf mistletoe nor Michigan holly hold the strong holiday legends of their cousins but both are interesting plants none-the-less. Michigan holly adds gaiety and beauty to the winter landscape and eastern dwarf mistletoe is inconspicuous with an unusual lifestyle.

Since it "Tis the season" for making a list and checking it twice take a look at this list of plant characteristics and see if you can figure out which belong to Michigan holly and which belong to eastern dwarf mistletoe.



Left: Eastern Dwarf Mistletoe plants are parasitic and thrive on tree branches. Credit: Steven Katovich, USDA Forest Service, Bugwood.org.



Left: Michigan Holly or Wintergreen Berries. Credit: mmvm, Flickr Creative Commons.

Right: Eastern Dwarf Mistletoe Male Flowers. Credit: Joseph O'Brian, USDA Forest Service, Bugwood.org.



Right: Michigan Holly Flowers. Credit: Flatbush Gardener, Flickr Creative Commons.



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Holly or Mistletoe?

- Shrub 1-5 cm tall
- Shrub 1-5 meters tall
- Found in low grounds, moist woods, swamps, moist shores and thickets
- Found on branches of conifers (most often spruce), usually in bogs, sometimes along shorelines and forest borders
- Flowers do not look like our classic image of a flower. They bloom early in spring (late March-May, just before or near the same time that red maple flowers) The plants do not flower until the fourth season.
- Flowers bloom late May and June, small white flowers are not very showy
- Fruit is a bright red drupe (fleshy, thin skinned, with one seed incased in a pit)
- One seeded berry is enclosed in sticky mucus
- Fruit ripens June -Sept. and often remains on the shrub long into the winter. Seeds generally dispersed by birds and mammals eating the fruits
- Fruits ripen in the late summer and early fall. The seed from each berry is expelled by rapid contraction of the fruit, traveling perhaps as much as 6 to 12 m or more. Wind and even birds or squirrels, aided by a sticky coating on the seed, may play minor roles in dispersal
- Leaves vary somewhat in shape, texture and pubescence but are mostly egg shaped and serrated.
- Leaves are reduced to scales
- Absorbs food from the sap of a coniferous tree (parasitic)
- Like many parasitic fungi this flowering plant produces a deformity on the host plant often called "witch's broom"
- Also called winterberry

Manager's Corner

Continued from page 1

aside from preparing work plans and other assignments, plans for the field season, coordinating research, pest control and other activities. Greg M., Mark and Laurie are busy in the office tracking and reporting on what we did in the previous year and preparing budgets etc. for the upcoming year along with responding to various data calls and report requests from our Regional Office, the Washington office and our partners.

We attend meetings in the winter, generally for reporting or planning and, with technology, can meet with many people without having to brave the sometimes icy roads. One of the more important things we do in the winter is recruiting for our summer help: range technicians, biological technicians, applied sciences and visitor services interns and volunteers. This is a critical task, as getting quality people is paramount to our mission. Recruiting for our summer folks is, not surprisingly, all done electronically. We decide what we need, we file a request with information on the job, the grade and the time, get the right signatures and our Human Resources Office takes it from there. Positions are ultimately advertised on USA jobs, the Office of Personnel Management's website and applications are taken electronically. Once the application period closes, human resources generates a list of eligible applicants and we review the application, conduct interviews, check references and finally make a selection and an offer. That is just one example of what is going on out here in the "slow" months. Rest assured we are busy conducting the business of Seney in order to present the seamless operation you see when you arrive at ice-out. Of course if you 'd like to see for yourself stop in at the Headquarters – we always like company and can usually find a pot of coffee to share. *

Announcement

On or about December 27th the new Seney National Wildlife Refuge website will be launched. Check it out and send comments and questions to Sara_Giles@fws.gov. www.fws.gov/refuge/seney

Habitat Management Planning

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our map to achieving the management goals of the station per our mission which is: *Working with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American People.*

Copies of the CCP for the Seney National Wildlife Refuge and the Kirtland's Warbler Wildlife Management Area are available at the office or online at <http://www.fws.gov/refuge/seney>. The CCP for the Great Lakes Islands National Wildlife Refuges (Huron NWR, Harbor Island NWR and Michigan Islands NWR) is currently in final draft form and will be available in hard copy and electronic form soon. The Habitat Management Plan has been submitted for review and will be available early in 2013.

*



Right: Swans in the Snow.
Photo: Kimber Reagle, 2011 Photo Contest.

Holly & Mistletoe
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While neither of these shrubs can boast the evergreen characteristic of their honored relatives, let us toast, in the spirit of holiday goodwill, these local relatives for their own interesting characteristics.

Quiz Answers - How Did You Do?

EASTERN DWARF MISTLETOE	MICHIGAN HOLLY
<ul style="list-style-type: none"> Like many parasitic fungi this flowering plant produces a deformity on the host plant often called "witch's broom" 	<ul style="list-style-type: none"> Also called winterberry
<ul style="list-style-type: none"> Absorbs food from the sap of a coniferous tree (parasitic) 	
<ul style="list-style-type: none"> Leaves are reduced to scales 	<ul style="list-style-type: none"> Leaves vary somewhat in shape, texture and pubescence but are mostly egg shaped and serrated.
<ul style="list-style-type: none"> Fruits ripen in the late summer and early fall. The seed from each berry is expelled by rapid contraction of the fruit, traveling perhaps as much as 6 to 12 m or more. Wind and even birds or squirrels, aided by a sticky coating on the seed, may play minor roles in dispersal 	<ul style="list-style-type: none"> Fruit ripens June -Sept. and often remains on the shrub long into the winter. Seeds generally dispersed by birds and mammals eating the fruits
<ul style="list-style-type: none"> One seeded berry is enclosed in sticky mucus 	<ul style="list-style-type: none"> Fruit is a bright red drupe (fleshy, thin skinned, with one seed incased in a pit)
<ul style="list-style-type: none"> Flowers do not look like our classic image of a flower. They bloom early in spring (late March-May, just before or near the same time that red maple flowers) The plants do not flower until the fourth season. 	<ul style="list-style-type: none"> Flowers bloom late May and June, small white flowers are not very showy
<ul style="list-style-type: none"> Found on branches of conifers (most often spruce), usually in bogs, sometimes along shorelines and forest borders 	<ul style="list-style-type: none"> Found in low grounds, moist woods, swamps, moist shores and thickets
<ul style="list-style-type: none"> Shrub 1-5 cm tall 	<ul style="list-style-type: none"> Shrub 1-5 meters tall

11 to 15 Correct - You must be related to the Jolly Old Elf himself!

6 to 10 Correct - Not too shabby! However, watch out for those tricksters who try to steal a kiss under the holly.

0 to 5 Correct - Just how much egg nog did you drink?



Right:
 High-bush
 Cranberries.
 Photo:
 Fran Fuller,
 2011 Photo
 Contest.

Congratulations to the Photo Contest



Loon Stretch - Amy Widenhofer
1st Place Wildlife Category



Snowy Owl Eating a Grebe - Sarah D'Angelo
2nd Place Wildlife Category



Spotted Tussock Moth Caterpillar
Katelyn Cox
3rd Place Special Assignment:
Macro Category



Osprey - John Hysell
3rd Place Wildlife Category

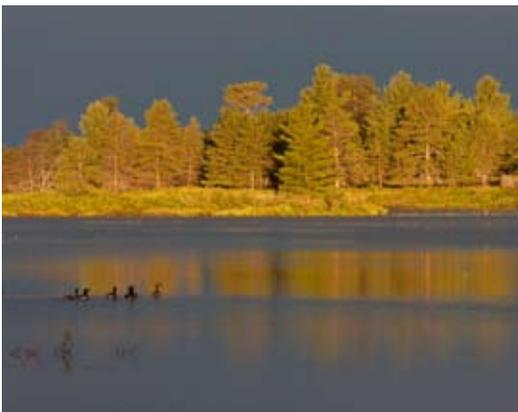


Caterpillar (Pandorus Sphinx)
Conrad Warren
2nd Special Assignment: Macro Category



Fritillary Butterfly - Conrad Warren
1st Special Assignment: Macro Category

Right: Autumn Reflection - Keri Boothe
2nd Place Recreation Category



Morning Reflection - Fred Gaunt
3rd Place Recreation Category



Left: Seney Summer Sunset - John Hysell
1st Place Landscape Category



2012 Seney Amateur Best Winners



Common Milkweed
Kellie Barry-Angeli
3rd Place Plant Category



Bush with Monarch Butterfly - Anne Chase
2nd Place Plants Category



White Water Lily - Barbara Hysell
1st Place Plant Category



A Moment in Time - Linda Ison
3rd Place Recreation Category



Forty-two Pick Up - Katelyn Cox
2nd Place Recreation Category



*Left: Canoeing the Manistique
in Fall Fashion*
Keri Boothe
1st Place Recreation Category



Black-capped Chickadee - Sierra Utych
3rd Place Youth Category



Seney Sunset - Sigurd Utych
1st Place Youth Category



Right: Piping Plover Whitefish Point
Sigurd Utych
1st Place Youth Category

Seney National Wildlife Refuge

2013 Amateur Photo Contest

You're invited to participate in Seney National Wildlife Refuge's Amateur Photo Contest. The sole purpose of the contest is to encourage you to visit and enjoy the Refuge. Up to five entries (total) per person may be submitted - no more than three per category with exception of the youth category. The Special Assignment category will change each year. Photos may depict any of the following categories:

1. **Wildlife (Mammals, Birds, Reptiles & Amphibians, Spiders, Insects, etc.)**
2. **Public Use/Recreation**
3. **Landscape**
4. **Plants/Plant Like Organisms (Wildflowers, Lichens, Mushrooms, Liverworts, etc.)**
5. **Special Assignment 2013: Black and White / Special Assignment 2014: Camouflage**
6. **Youth (18 and under)**

The photos will be displayed at the Visitor Center in September and October and on Seney's Flickr page (www.flickr.com/seneynwr). Credit will be given to each of the contestants once the voting has been completed. The public will vote for their favorites in each of the categories. You may cast your vote at the Visitor Center or online. Voting will begin by September 10th and end on October 15th. To vote online check out the photos on the Flickr website (www.flickr.com/seneynwr) then follow the special instructions. Certificates, ribbons and prizes (e.g. books, posters) will be awarded.

U.S. Fish & Wildlife Service

Agreement for Use of Likeness in Service Products

Grant Unrestricted Use of Likeness

I hereby grant permission to the U.S. Fish and Wildlife Service (USFWS) to make visual and/or audio recordings of myself and/or any minor under my control at the time of the recording. I also grant permission to the USFWS to use these photographic, video and/or audio recordings in official Service publications, productions, displays and on the Internet without any consideration. I hereby irrevocably authorize the USFWS to edit, alter, copy, exhibit, publish or distribute this photo/video/audio for any lawful purpose. I understand these photo/video audio recordings will be in the public domain.

As a result of being in the public domain, the USFWS, or anyone else, may freely publish, reproduce, use and/or distribute these photo/video/audio recordings in any media without your approval or permission, with no monetary compensation to you and without temporal or geographic restriction (unless using your likeness for commercial use - then your permission is required).

In addition, I waive the right to inspect or approve the finished product, including written or electronic copy, where in my likeness appears. I also hereby hold harmless and release and forever discharge the USFWS from all claims, demands, and causes of action which I, my heirs, representatives, executors, administrators, or any other persons, acting on my behalf or on behalf of my estate have or may have by reason of this authorization, and agree to indemnify the USFWS, its officers, agents and employees against any out of pocket expenses, including attorney's fees, that may be incurred in defense against any such claim, action or proceeding. I am at least 18 years of age and am competent to contract in my own name. I have read this release before signing below and fully understand the content, meaning, and impact of this release.

Print Name of Minor

Print Name

Signature

Date

Phone or E-mail

Service Representative _____ Office _____ Phone () - _____ FWS 3-2260

Contest Rules and Regulations

1. All entries must be photographs taken at Seney National Wildlife Refuge or the Whitefish Point Unit.
2. Up to five entries (total) per person may be submitted - no more than three per category with exception to the youth category. Youth may enter up to five photos in their age bracket.
3. Photographers must be non-professional; this is an amateur contest. For the purposes of this photography contest, a professional photographer is considered to be a photographer who has clients, depends on photography for their income, markets their services and/or writes off their expenses as a business owner.
4. All photographs should be submitted as an **electronic copy (please send the highest resolution possible) AND in a printed format 5"x7", 8"x10" or 8"x12"**. Any photos not in accordance with size restrictions are subject to cropping. Black and white or color photos are acceptable. If you are unable to submit an electronic copy of your photo Refuge staff will scan the photo for you. Note that scanned photos are not always as high quality as photos submitted electronically. Photos may not be matted nor should there be any frame or border surrounding the photo (digital or otherwise). Photos may not display the name of the photographer on the front of the photograph.
5. Mail or deliver the printed entries to:
Seney National Wildlife Refuge
c/o Photo Contest
1674 Refuge Entrance Road
Seney, MI 49883
6. Electronic copies may be mailed with the printed copy or emailed to seneysv@gmail.com, the subject line should read "Photo Contest". Entries are accepted year round.
7. On the back of the printed photo, please attach a signed permission form with your contact information. Photos lacking the signed permission form will be disqualified.
8. All entries must be received by August 31, or they will be entered in the following year's contest.
9. Digitally altered photos - other than slight color correction (i.e. brightness or contrast) or a shift to black and white - will be disqualified.
10. Anyone whose photo has been disqualified will be notified before the voting begins.
11. If a minor is pictured in a photo an "Agreement of Use of Likeness in Service Products" (USFWS form 3-2260) must accompany the entry forms can be found at (<http://www.fws.gov/forms/3-2260.pdf>), copies can also be found at the Visitor Center or mailed to requesting individuals.
12. All entries will be retained by the Refuge and may be used for a variety of reasons including non-profit publications, webpages and presentations.
13. While extreme care will be taken in handling all entries, the Refuge cannot be responsible for any damage to photographs.

Online Voting: Cast your vote for your favorite photos from September 10th to October 15th. See the website for information on how to cast your vote.

----- Detach Here----- Please Print Clearly ----- Detach Here-----

Title of Photo: _____

Your Name: _____ Email: _____

Street Address: _____ Phone: _____

City: _____ State: _____ Zip Code: _____

Circle Category Entered: **Wildlife; Public Use/Recreation; Landscape; Plants; Special Assignment; or Youth**

I, the provider, affirm that the photo described on this sheet, was taken by me alone in my private capacity and automatically qualifies for a U.S. copyright. I agree to irrevocably dedicate those copyrights to the public domain. As a result of the image being in the public domain, the USFWS, or anyone else, may freely publish, reproduce, use and/or distribute this image in any media without your approval or permission, with no monetary compensation to you and without temporal or geographic restriction. However, if the USFWS uses this image, it agrees to credit the provider where possible. I, the provider, understand that if the foregoing representations concerning copyright ownership is determined to be incorrect or false, resulting in the USFWS, the U.S. Government or Seney Natural History Association being sued for copyright infringement, I agree to indemnify the USFWS, the U.S. Government, and/or Seney Natural History Association for any resulting expenses arising from defending and/or settling such litigation.

I agree to the above full copyright release - Signature: _____ Date: _____

If a minor (17 & under) has taken the photo a parent or guardian of the minor must give their permission by signing above.

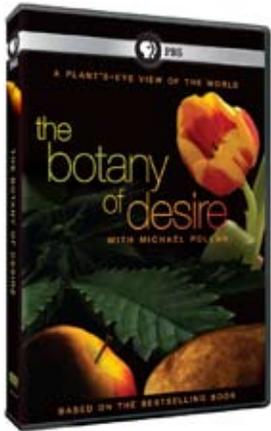
2013 Winter Film Festival at Seney National Wildlife Refuge

Tuesday nights in February at 6:30 p.m.

All films will be shown in the Visitor Center Auditorium at Seney National Wildlife Refuge. All shows are open to the public and are free of charge. Hot chocolate, coffee, tea and cookies will be provided by the Seney Natural History Association. Please bring a mug. Watch previews of this year's films on the Seney Website at www.fws.gov/Midwest/seney.

February 5th

The Botany of Desire



120 Minutes - Featuring Michael Pollan and based on his best-selling book, this special takes viewers on an eye-opening exploration of the human relationship with the plant world -- seen from the plants' point of view. Narrated by Frances McDormand, the program shows how four familiar species -- the apple, the tulip, marijuana and the potato -- evolved to satisfy our yearnings for sweetness, beauty, intoxication and control.

February 12th

The Beauty of Ugly

55 Minutes - We may think we know what is beautiful and what isn't, but in the natural world, beauty can be many things, including what we might find completely repulsive. Not only can the bizarre be attractive, it can also provide just the edge a creature needs to succeed in a difficult environment. From frogfish and hagfish to the ugliest bug in Oklahoma, we learn how and why ugly can be beautiful, even when it isn't pretty.

The Teakettle Experiment: Fire and Forest Health

27 Minutes - A film that documents the Teakettle Experiment - a ten-year collaboration of forest managers and scientists from diverse disciplines that investigated the effects of prescribed fire and forest thinning on restoring forest health.



Star-nosed Mole. Credit: GreenAnswers.com

February 19th

Magic of the Snowy Owl

60 Minutes - A team of intrepid filmmakers provides an intimate look at the snowy owl. Though "snowies" naturally stand out for their beauty, intelligence & charm, in their eerie, bleak Arctic home it is their determination and survival skills that are truly magical.



Snowy Owl. Credit: Doug Brown

Mother: Caring for 7 Billion

60 Minutes - Mother, the film, breaks a 40-year taboo by bringing to light an issue that silently fuels our largest environmental, humanitarian and social crises - population growth. Since the 1960s the world population has nearly doubled, adding more than 3 billion people. The film illustrates both the over consumption and the inequity side of the population issue by looking at the thorny complexities of the population dilemma and highlights a different path to solve it.

February 26th

A Murder of Crows

60 Minutes - New research has shown that crows are among the most intelligent animals in the world, able to use tools as only elephants and chimpanzees do, able to recognize each other's voices and 250 distinct calls. Crow experts from around the world sing their praises, and present us with captivating new footage of crows as we have never seen them before.

Can the Gulf Survive?



50 Minutes - With exclusive access to BP's clean-up operations, National Geographic investigates what happened to the 4.9 million barrels of oil that poured from the sea floor in one of the worst environmental disasters of all time. From the front lines of the cleanup efforts, National Geographic follows the first two months after the spill, tracking cleanup efforts as experts seek to learn the ongoing effects and BP battles the spill and the public outcry.

The descriptions of these films are borrowed from the producer's websites.

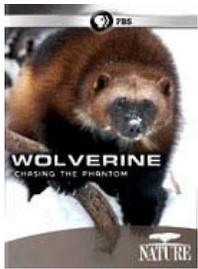
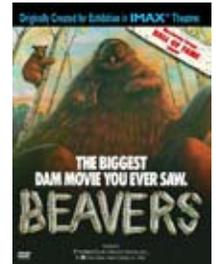
2013 Family Film Festival at Seney National Wildlife Refuge

No school? Wondering what to do with your kids? Seney National Wildlife Refuge and Seney Natural History Association will be hosting afternoon family film festivals on January 2nd and March 2nd. The films will be shown in the Visitor Center Auditorium at Seney National Wildlife Refuge. The shows are open to the public and are free of charge. Hot chocolate, coffee, tea, popcorn and cookies will be provided. Please bring a mug.

Wednesday, January 2nd at 1:30 p.m.

Beavers

30 Minutes - Take an intimate swim with "Beavers" and experience the rich aquatic habitat of one of nature's greatest engineers. Set in the pristine forests and lakes in the heart of the Canadian Rocky Mountains, this film follows the lives of a family of beavers as they grow, play and transform the world around them.



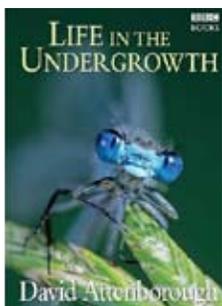
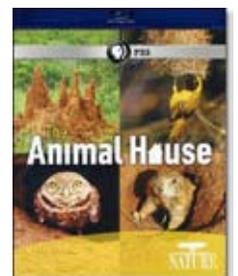
Wolverine: Chasing the Phantom

60 Minutes - Its name stirs images of the savage, the untamable. Legend paints it as a solitary, blood-thirsty killer that roams the heart of the frozen north, taking down prey as large as moose, crushing bones to powder with its powerful jaws. But there is another image of the wolverine that is just beginning to emerge, one that is far more complex than its reputation suggests. This show takes viewers into the secretive world of the largest and least known member of the weasel family to reveal who this dynamic little devil truly is. Hard-wired to endure an environment of scarcity, the wolverine is one of the most efficient and resourceful carnivores on earth.

Saturday, March 2nd at 1:30 p.m.

The Animal House

60 Minutes - Animals build homes for reasons very similar to our own, but they've been doing it for much longer. From a small depression in the sand to an elaborate, multi-chambered tunnel - animal structures can be simple or architectural marvels. In each case, the goals are the same - protection from predators, and a nearby source of food. These structures, whether a nest, a burrow or a mound, are also the site of great dramas and extraordinary behaviors. From master builders like termites and beavers to master decorators like the bowerbird which places colorful flowers at the entrance to its nest, The Animal House provides a fascinating look at "the homelife of wildlife."



Life in the Undergrowth

50 Minutes - Open your eyes to the bizarre, ferocious and surprisingly beautiful world of the invertebrates. Join David Attenborough on his ground-breaking exploration into a spectacular miniature universe not normally seen, but teeming all around us. Within this remarkable world lie not just bugs and beetles, but exotic cicadas, neon glow worms, intricate silk-weaving spiders and bat-eating centipedes - not to mention a whole host of other incredible life-forms with startling behavior. Thanks to technical innovations in lighting, optics and computerized motion control, this turbulent, super-organized world is finally revealed from the perspective of its extraordinary inhabitants. These creatures may be minuscule, but they live life on a truly grand scale.

Join us after the movies for some snowshoeing fun! Bring your own snowshoes or borrow a pair from the refuge. We have both children's and adult's sizes.

The descriptions of these films are borrowed from the producer's websites.

How Can I Leave a Gift to Seney NWR?

by Liz Hill

Guests occasionally ask the volunteers at the Visitors Center if it's possible to put Seney National Wildlife Refuge in their wills.

According to Tom Kenney, vice president of the Seney Natural History Association (SNHA), "The answer is yes and no." He explained that the refuge itself cannot be a direct beneficiary of funds, but SNHA can.

The Seney Natural History Association (SNHA) is a non-profit organization that helps fund programs at Seney National Wildlife Refuge. Since 1987 the group has raised funds for the refuge through profits from the Visitor Center's bookstore sales, membership dues, fund-raisers and generous donations.

"For most of us leaving something for the refuge can be a simple bequest in the will," he said. "I give X dollars to Seney Natural History Association." Kenney, who is an accountant, added more sophisticated approaches involve setting up various types of trusts to reduce taxes on large estates. "In all cases, the donor should seek advice from their attorney and/or accountant regarding their individual circumstances."

Your bequests and donations help promote a better understanding and appreciation of the natural history and natural environment of Seney National Wildlife Refuge. *

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Dear Nature Nut,

While walking out in the woods one cold March morning I saw these beautiful ice crystals covering everything in sight. What are they and what causes them?

Signed,
The Snow Angel



Photo: Hoarfrost on red pine needles.
Credit: Sara Giles, USFWS.

Dear Angel,

Those beautiful ice crystals are called hoarfrost. Hoarfrost is basically winter's version of dew and forms in much the same way that dew does. When the air outside cools it will at some point reach the dew point. That is the temperature at which the air is holding as much water as it can hold. The rest of the water has to go somewhere. Therefore, when the air temperature is above freezing, it forms dew and when it is below freezing, it forms hoarfrost.

Prime conditions for hoarfrost formation:

- The air is humid.
- The previous day was warm.
- The night was cold.
- It is not windy – wind destroys the delicate crystals.

Hoarfrost can accumulate on virtually anything that gets cold. Just look inside your freezer. All that ice accumulated on the walls is actually hoarfrost. You open the freezer and warm moisture laden air enters – you close it and the temperature drops causing the formation of the ice crystals. The best hoarfrost crystals form in cold, undisturbed areas with a source of moisture and convection currents in the air. Areas like

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cave mouths and one report on the seat in an outhouse. Some caves in Antarctica have hoarfrost crystals that are a meter long!

Look for hoarfrost early in the morning before the sun's heat warms the air enough for the hoarfrost to disappear (melt/sublime). Unfortunately, hoarfrost is not a common occurrence so enjoy it while you can.

You may wonder where hoarfrost gets its name. Hoar means gray-haired or white-haired because of old age. If you use your imagination you can see how these crystals get their name. Sometimes they do have a hairy appearance.

Happy Holidays,
The Nature Nut

*The questions in the Nature Nut Column came from questions posed by visitors. This month the "Exploding Tree" column was written by Intern Dawn Marsh and the "Hoarfrost" column was written by Sara Giles. If you have a question you would like the Nature Nut to answer email Sara_Giles@fws.gov and put Dear Nature Nut in the Subject. **

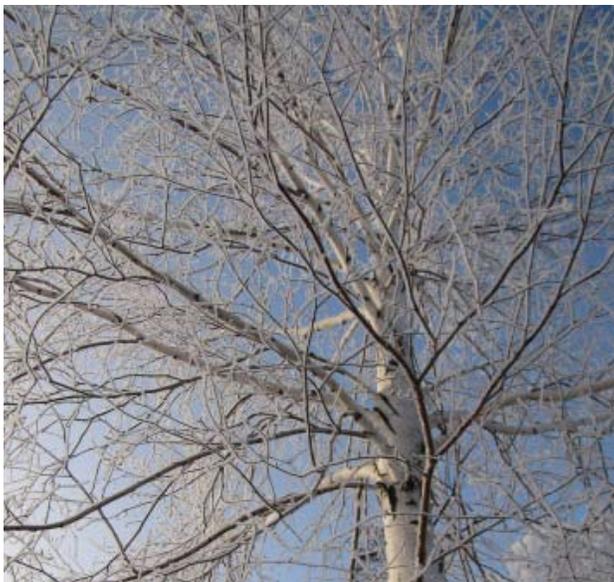


Photo: Hoarfrost covering a paper birch tree. Credit: Sara Giles, USFWS.

Right: Jennifer McDonough, Sara Giles, Shirley Harkness and Mark Vaniman.
Credit: Jan Barrett.

Announcements

19.85 Acres Acquired at Whitefish Point

The U.S. Fish and Wildlife Service recently finalized the purchase of 19.85 acres of land at Whitefish Point, Chippewa County, Mich. The acreage, which includes 1,000 feet of Lake Superior shoreline, is within designated critical habitat for the endangered Great Lakes piping plover and is adjacent to 33 acres that make up the Whitefish Point Unit of the Seney National Wildlife Refuge. The gravel beaches, sandy beach dunes and stunted jack-pine dominated forests once slated for development will now be protected as part of the National Wildlife Refuge System. Whitefish Point is renowned for its concentrations of birds during migration. *



Shirley Harkness Named Volunteer of the Year

Shirley Harkness, a 12 year veteran of volunteering, received the "Volunteer of the Year" honor for her years of dedication to the refuge and her steadfast, consistent, loyal and reliable service. Harkness is a front desk volunteer and has touched the lives of thousands, including refuge visitors, staff members and volunteers. She has volunteered one day a week since 2001 missing very few weeks and picking up additional shifts when we need her. *

Seney Natural History Association
1674 Refuge Entrance Road
Seney, MI 49883



Credit: Sue Fleischmann

**Seney Natural History Association
is looking for t-shirt design ideas.
Submit your ideas to Sara_Giles@
fws.gov. If your design is used you
will receive a free t-shirt featuring
your design. ***