

Refuge News

Winter 2014

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

Seney Natural History Association

Manager's Corner

by Sara Siekierski



I am starting my fifth week at Seney NWR. It is hard for me to believe it has almost been a month since I arrived at this gem of a refuge! What an amazing place full of amazing people! I arrived just in time for the quiet of winter; although the staff and volunteers are staying busy. Forgive me if I share information you've already learned, it is all new to me! Here are some things I've been getting brought up to speed on so far...

I had the pleasure of sitting in on the Seney Natural History Association Board meeting and learning about their accomplishments, how they support the Refuge, and specific activities they will be sponsoring over the next fiscal year. I am exhilarated to know we have such a competent and dynamic group of friends whose dedication is unquestionable!

The hunters have arrived and despite the snow they remain dedicated to partaking in their traditional deer hunts and camps that are part of Seney's rich history. The Refuge received law enforcement support from other regional refuges to ensure a quality sportsman hunt. All in all, it appears to be an enjoyable season with a few successful hunters to date. On that note, Seney NWR is proposing changes to the Refuge hunting regulations and hunting areas that would take effect in the 2015/2016 calendar year. After the local public comment period closed, the final plan was just submitted in November to our regional office. From there it will be submitted to USFWS Washington, D.C. to be published in the Federal Register.

The Refuge has also been working on a Habitat Management Plan for the Harbor Island NWR, Huron NWR and Michigan Islands NWR. This plan discusses our specific habitat management goals and strategies as a step-down plan from the Comprehensive Conservation Plan. The process of writing these plans is beneficial in that it helps us to be strategic and make sure we are keeping our specific actions in line with the bigger Refuge and landscape picture.

Thanks to generous invitations by Refuge staff, I've had some great outings on the Refuge. Some of you may have seen a photo on Facebook where I was in a vehicle allegedly stuck... No

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Photo: Winter Landscape.
Credit: Larry McGahey

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www.facebook.com/seneyrefuge

www.flickr.com/seneynwr

Email: seney@fws.gov

Photo: Otters on ice.

Credit: Larry McGahey.

SNHA Searching for New Bookstore Manager

by Nancy Strawe

After serving 13 years as bookstore manager, Claudia Slater retired at the end of the 2014 season. Claudia did an excellent job and her commitment and dedication were appreciated by the Seney Natural History Association (SNHA) Board of Directors. Many visitors have commented on the wonderful selection of books and merchandise our store has to offer.

The Marshland Bookstore is operated by SNHA, a non-profit organization that supports the Seney National Wildlife Refuge. The bookstore is the primary source of income for SNHA. Net profits from bookstore sales are used to fund interns and various Refuge programs.

SNHA is searching for a bookstore manager who could spend 5-10 hours per week working at the Visitor Center during the open season (May 15 to October 20). A few off season hours would be required to order items in preparation for opening in the Spring and to conduct end of the season inventory. Prior business experience would be beneficial, but training will be provided.

Qualifications include some computer knowledge, good communication skills and a willingness to work well with Refuge staff, interns and volunteers.

Benefits: A \$1,200 stipend will be paid by SNHA.

Key Responsibilities:

- Learn *Anthology* (the point of sale & inventory control software that operates the cash register)
- Order items that meet established guidelines
- Receive items and enter in *Anthology*
- Prepare invoices to be paid by SNHA Treasurer
- Serve as co-chairman on the bookstore committee
- Report to the SNHA Board of Directors and the Refuge liaison
- Help increase profits

Interested applicants should contact: Sara Giles, Visitor Services Manager at the Seney National Wildlife Refuge. Phone: 906-586-9851 x10 or email: Sara_Giles@fws.gov ❖

Winter Sports

Did you know the entire Refuge is open to skiing and snowshoeing? So get out there and enjoy winter. Remember, snowshoers, you are welcome to use the ski trails just don't step in the ski tracks. Dogs are not allowed on the groomed ski trails, but you may take them with you on all other portions of the Refuge if they are on a leash. Check the Refuge Facebook page www.facebook.com/seneyrefuge or www.fws.gov/refuge/seney for updates on trail conditions. ❖

Nature Nut Column



Dear Nature Nut,

Is there some way to tell the difference between woodpecker holes? And just what are they after anyway? Does anything use their holes once they are finished with them?

Sincerely,
Wondering About Woodpeckers

Dear Wondering,

The whacky wild world of woodpeckers is wondrous. As we wend into their woody way of life we will weigh each woodpecker's differences. A total of eight species of woodpecker may reside at Seney NWR depending on the time of year and other conditions. Red-headed and red-bellied woodpeckers are only rarely seen on the Refuge during certain seasons and are not known to nest here. The other six, the yellow-bellied sapsucker, the northern flicker, and the downy, hairy, pileated, and black-backed woodpeckers, are known to nest at Seney. Northern flickers and yellow-bellied sapsuckers are migratory and fly south for the winter. In this article let's focus on our six nesting woodpeckers.

Different woodpeckers do indeed make different holes. Sometimes it is easy to tell which woodpecker made which hole while at other times it is more difficult to identify the woodpecker based on the hole because sizes and shapes may overlap.

The most easily distinguished holes are made by pileated woodpeckers. They are the largest woodpecker at Seney NWR and make the largest holes. Pileated woodpeckers make two types of holes, rectangular and oval (Figure 1). Rectangular holes are their feeding holes. They can be quite deep and generally

serve as a way to get to the heartwood of the tree where their favorite prey lives – carpenter ants. If you inspect a pileated woodpecker's hole sometimes you can see that the inside of the tree is actually rotten and riddled with insect activity. They will also pick apart dead trees. Sometimes they are so active their excavations will run the length of the trunk of a tree or branch and fresh wood

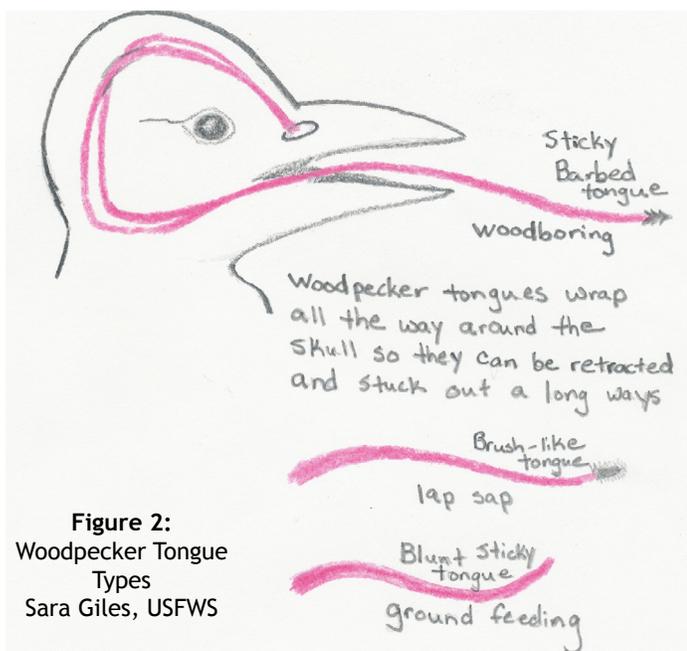


Figure 2:
Woodpecker Tongue Types
Sara Giles, USFWS

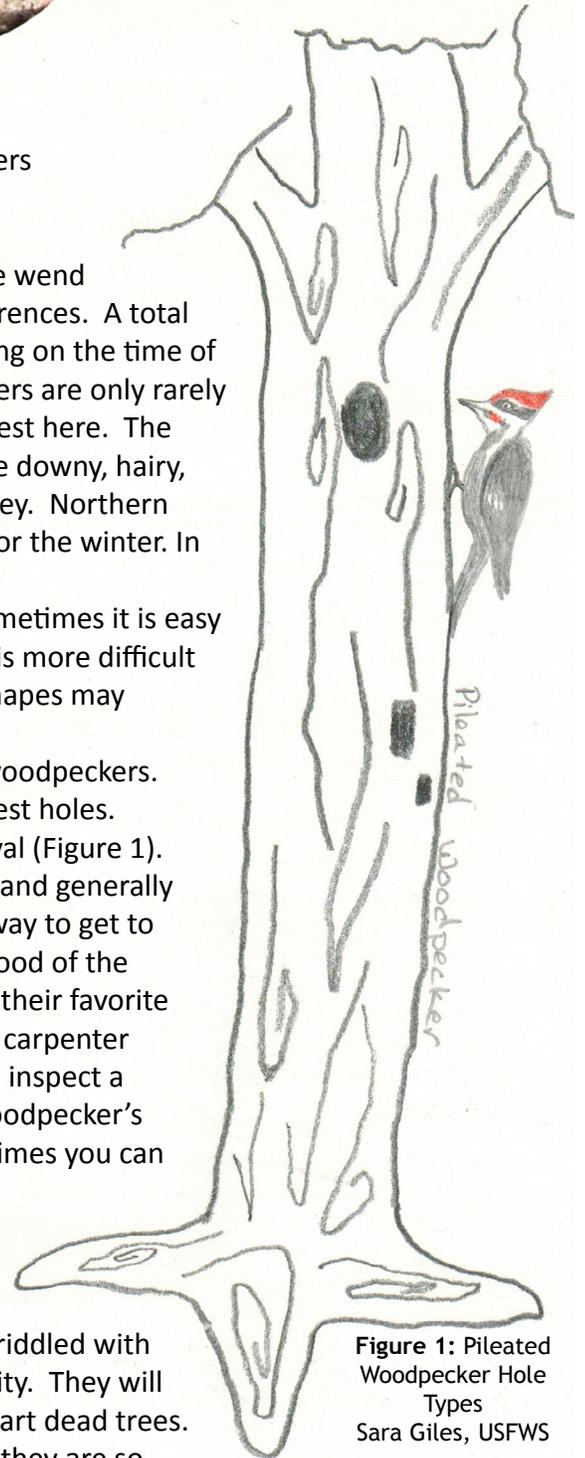


Figure 1: Pileated Woodpecker Hole Types
Sara Giles, USFWS

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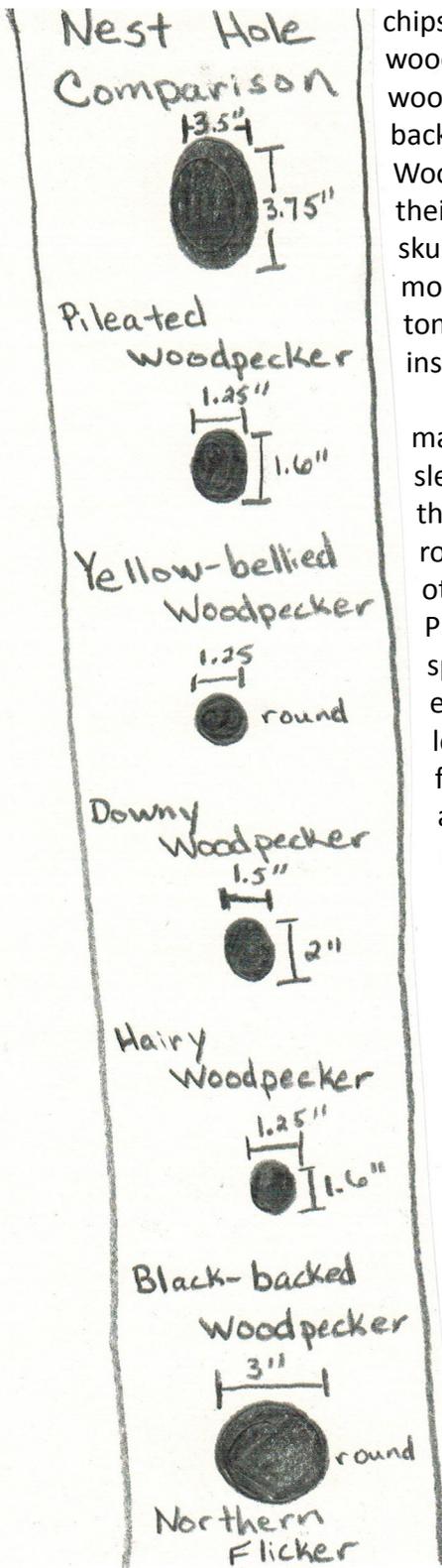


Figure 3: Woodpecker Nest Hole Comparison - Sara Giles, USFWS

chips will litter the forest floor. Pileated woodpeckers and other woodboring woodpeckers (the downy, hairy and black-backed) have long, sticky barbed tongues. Woodpecker tongues start at the top of their beak and wrap all the way around the skull of the bird before sticking out their mouth (Figure 2). They can stick their tongues out several inches to spear hiding insects. What a great adaptation.

The oval holes pileated woodpeckers make are their roosting and nesting holes. Pileated woodpeckers prefer to sleep inside trees so they create many roosts. Roosts are used throughout the year, may be located in dead or hollow trees and have multiple escape routes. They don't want to be trapped if a predator shows up. Nests on the other hand only have one entrance/exit and are usually made in living trees. Pileated woodpeckers are what biologists call keystone species. A keystone species is a plant or animal that has a large effect on other species in its ecosystem to the extent that if it were removed that ecosystem would no longer function in the same way. Pileated woodpecker holes provide homes for a number of animal species such as cavity nesting ducks, like wood ducks and mergansers, American martins, certain species of owls, flying squirrels, mice, bats, and other animals that use tree cavities.

All of Seney's woodpeckers are cavity nesters and to some extent provide homes to other animals. Telling who made what nest requires access to the hole, a ruler, and a guide – or direct observation to see who is using it. Nest holes are generally quite deep and either round or oval in shape (Figure 3). In contrast, holes created for feeding are shallow (Figure 6).

Downy and hairy woodpeckers look a lot alike except the downy woodpecker is smaller than the hairy. The downy is about the size of a sparrow and has a smaller beak, while the hairy is about robin sized. Their feeding holes tend to be round but the downy, in general, makes holes in plants and trees that are softer. A good place to look for downy woodpecker activity is on round goldenrod galls (Figure 4). Chickadees and downy woodpeckers will often peck open the galls for the grub inside. In the winter, downy woodpeckers often frequent birch trees and make small trap doors by prying up the bark to get at the insects underneath. Hairy woodpeckers may peck small to large holes in harder trees to get at the insects within. Most woodpeckers can also be seen inspecting tree bark for insects hidden in cracks and crevices. No pecking required – a much easier meal.

The black-backed woodpecker, prized by birdwatchers, can usually be found in recently burned forests. After a burn it only takes about a month before these birds move into an area. They are drawn by the wood-boring beetles that take up residence in trees damaged by fire.

Black-backs may pry bark off or vigorously peck a tree in pursuit of their prey.

The yellow-bellied sapsucker is a different story. They will peck a series of very shallow holes in a tree. Much like people who collect maple syrup in the spring these woodpeckers only bore into the wood far enough to reach the cambium – the portion of the tree that transports sap. Their holes are known as sap wells. These sap wells require maintenance to keep the sap flowing. If they are left without maintenance the tree sap will

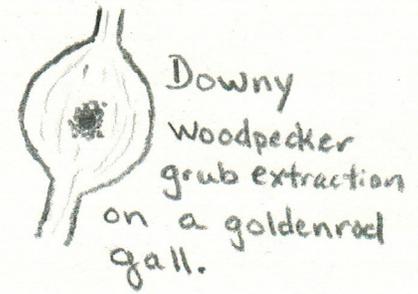


Figure 4: Downy Woodpecker Gall Extraction - Sara Giles, USFWS

dry making a scab of sorts and begin to heal. The woodpecker not only drinks the sap with their brush like tongue, perfect for lapping sap, but also eats the small insects that are attracted to the flowing sap. Other animals are attracted to the sap wells which the sapsucker must defend. Ruby-throated hummingbirds, mourning cloak butterflies, and many other animals drink the sap from the sap wells. It is actually a very important food source for hummingbirds upon their arrival from the south before flowers are available. Other woodpeckers come to drink the sap as well as other animals the sapsucker surly sees as pests. A swift peck to the head may be the price they pay for a drink.

The northern flicker (Figure 5) is really more of a ground-pecker than a wood-pecker. These large birds can often be seen near the roadside probing the ground for ants and other insects. As they fly away you may notice their bright white rump patch mocking you in your attempt to figure out just what bird that was. The flicker's tongue is adapted to a life in the dirt. Its tongue has a blunter yet sticky tip, ideal for gathering insects on the forest floor.

Each of these woodpeckers is adapted for a specific ecological niche, or place in its habitat. Although they are all woodpeckers with many similar adaptations, chisel like beaks, strong neck muscles, stiff tail feathers which help them with leverage for pecking, zygodactyl toes (opposing pairs – two forward facing and two backward facing) to help grip the tree, as well as thick walled skulls and padded brains to help prevent brain damage from pecking, each woodpecker has their own special adaptations which allow them to fill a different niche, such as spear, blunt or brush like tongues.

Sincerely,
The Nature Nut



Figure 5: Northern Flicker
Sara Giles, USFWS

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Cross-country Ski Trails

November and December has brought quite a few inches of snow our way therefore the ski season will be getting an early start this year. Our maintenance crew generally grooms our ski trails once per week as conditions allow. The trails are groomed on a Thursday or Friday so they are ready for weekend users. We realize that there are several people who enjoy the trails on a more frequent basis. Unfortunately, the winter workload does not allow us to groom the trails after each snowfall. ❖

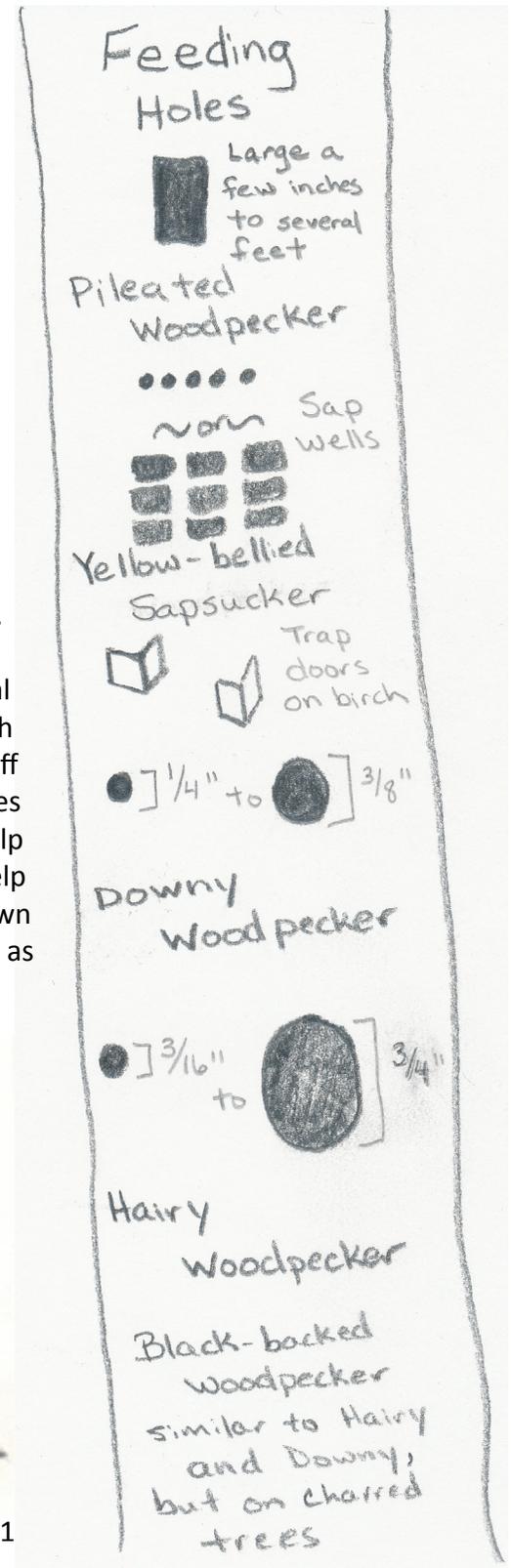


Figure 6: Woodpecker Foraging Hole Comparison - Sara Giles, USFWS

Congratulations to the 2014 Amateur Photo Contest Winners



**Special Assignment:
Camouflage Category - 1st Place**
Bittern by the Grassy Shore
Subject: American Bittern
Photographer: John Hysell



Youth Category - 1st Place
Beaver Eating Lilly Pads
Subject: American Beaver
Photographer: Nicholas Eddy



Landscape Category - 2nd Place
Evening at Seney
Subject: Sunset
Photographer: Anne Chase



Wildlife Category - 1st Place
I See You!
Subject: White-tailed Deer
Photographer: Penny Gordon



Landscape Category - 1st Place
Seney at Sunrise
Subject: Sunrise
Photographer: Penny Gordon



**Special Assignment:
Camouflage Category - 2nd Place**
Camo Cranes
Subject: Sandhill Cranes
Photographer: Jan Barrett



Recreation Category - 1st Place
Small Wonders, Gentle Hands
Subject: Boy with Monarch Caterpillar
Photographer: Jan Barrett



Plant Category - 1st Place
Ephemeral Silky Seeds of the Milkweed
Subject: Common Milkweed Seed Pods
Photographer: Carol Fleming



Wildlife Category - 2nd Place
Care to Join me for Lunch?
Subject: River Otter
Photographer: Anne Chase

Congratulations to the 2014 Amateur Photo Contest Winners



Youth Category - 2nd Place
Painted Turtle
Subject: Painted Turtle
Photographer: Nicholas Eddy



Plant Category - 2nd Place
Blue Flag
Subject: Blue Flag Iris
Photographer: George Phinney



Recreation Category - 2nd Place
Early Wonder
Subject: Baby and Butterfly
Photographer: Larkin Kinsella



Landscape Category - 3rd Place
Seney Tranquility
Subject: Pool Landscape
Photographer: Conrad Warren



Youth Category - 3rd Place
Reflections
Subject: Trumpeter Swan
Photographer: Adam Novey



Wildlife Category - 3rd Place
Home Sweet Home
Subject: Bald Eagles near Nest
Photographer: Carol Fleming



Plant Category - 3rd Place
Wild Rose after the Rain
Subject: Wild Rose Species
Photographer: Barbara Hysell



**Special Assignment:
Camouflage Category - 3rd Place**
Here Snipey, Snipey, Snipey
Subject: Wilson's Snipe
Photographer: April Payne



Recreation Category - 3rd Place
Snap
Subject: Photographer
Photographer: Julie Christiansen

Check out all of the 2014 Photo Contest entries on www.flickr.com/seneynwr.

Seney National Wildlife Refuge

2015 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 2015: Reflections; 2016: From the Forest Floor**
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 20th. 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, cards, posters, or another item from the bookstore) will be awarded. See page two for rules and regulations.

For further information please call (906) 586-9851 ext. 15.

Some Staff Favorites



Red-backed Salamander Guarding It's Eggs
Subject: Red-backed Salamander
Photographer: Matt Smokoska



Wood Duck Takes Flight
Subject: Wood Duck
Photographer: Barbara Hysell



Cedar Waxwings
Subject: Cedar Waxwings Passing Berries
Photographer: Karl Heil



Blue Damsel on Bracken
Subject: Bluet Species
Photographer: Barbara Hysell



Ruddy Turnstone at Whitefish Point
Subject: Ruddy Turnstone
Photographer: Jack Cook



One Good Tern
Subject: Caspian Tern
Photographer: Jack Cook

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 the Youth Category. A youth is considered anyone 17 and under.
3. All photographs should be submitted in a **printed format 5" x 7", 8" x 10" or 8" x 12" AND** in an **electronic copy (please send the highest resolution possible)**. 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.
4. Mail or deliver the printed entries to:
Seney National Wildlife Refuge
c/o Photo Contest
1674 Refuge Entrance Road
Seney, MI 49883
5. Electronic copies may be mailed with the printed copy or emailed to seneyvs@gmail.com, the subject line should read "Photo Contest". Entries are accepted year round.
6. On the back of each printed photo, please attach a signed permission form with your contact information - each photo needs a signed form. Photos lacking the signed permission form will be disqualified.
7. All entries must be post marked by August 31, or they will be entered in the following year's contest.
8. Photos that have been altered to combine two or more photos will be disqualified. Photos that use replication or other techniques to add details to a photo will be disqualified.
9. Anyone whose photo has been disqualified will be notified before the voting begins.
10. 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.
11. All entries will be retained by the Refuge and may be used for a variety of reasons including but not limited to publications, webpages and presentations.
12. 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 20th. See the website for information on how to cast your vote. www.fws.gov/refuge/seney/events/photo_contest.html

Detach Here

Detach Here

Title of Photo: _____

Print Name: _____ Email: _____

Street Address: _____ Phone: _____

City: _____ State: _____ Zip Code: _____

Circle Category Entered: **Wildlife; Recreation; Landscape; Plants; Special Assignment; and Youth**

I, the provider, hereby state in good faith that the photograph described herein was created by me alone in my private capacity and that the photograph automatically qualifies for a United States copyright. I hereby grant the U.S. Fish and Wildlife Service (USFWS), Seney National Wildlife Refuge, and the Seney Natural History Association (SNHA) permission to freely publish, reproduce, and distribute the photograph in any media, without my approval or permission, with no monetary compensation to me or my heirs or assigns, and without temporal or geographic restriction. However, if the USFWS, Seney National Wildlife Refuge or SNHA uses the photograph, it agrees to credit me as the photographer if possible. This includes reproducing the photograph for sale in the Marshland Bookstore - a non-profit bookstore who's sales go to help fund programs on the Refuge. If you would like to grant restricted usage rights to your photo you may fill out FWS Form 3-2259 available on the internet (<http://www.fws.gov/forms/3-2259.pdf>). Please attach a copy of the form, as well as the information listed above, to back of each hard copy photo you submit.

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

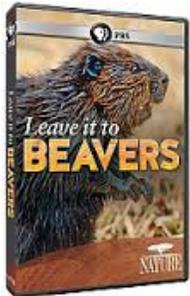
If a minor (17 & under) has taken the photo a parent or guardian of the minor must give their permission by signing above. If a minor is pictured in a photo an "Agreement of Use of Likeness in Service Products" (USFWS form 3-2260) must accompany the entry forms can be found at (<http://www.fws.gov/forms/3-2260.pdf>), copies can also be found at the Visitor Center or mailed to requesting individuals.

2015 Winter Film Festival at Seney National Wildlife Refuge

Thursday nights in March 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/refuge/seney.

March 5th



Leave it to Beavers

60 minutes - The fascinating story of beavers in North America - their history, near extinction, and current comeback, as a growing number of scientists, conservationists and grass-roots environmentalists have come to regard beavers as overlooked tools when it comes to reversing the disastrous effects of global warming and world-wide water shortages.

[\(Preview\)](#)

Hummingbirds

60 minutes - Hummingbirds represent one of nature's most interesting paradoxes - they are the tiniest of birds, yet they qualify as some of the toughest and most energetic creatures on the planet. Stunningly beautiful high-definition, high-speed footage of hummingbirds in the wild combined with high-tech presentations of their remarkable abilities help us to understand the world of hummingbirds as we never have before. [\(Preview\)](#)

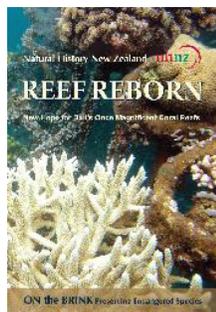
March 12

Plastic Paradise

57 Minutes - Thousands of miles away from civilization, Midway Atoll is in one of the most remote places on earth. And yet its become ground zero for The Great Pacific Garbage Patch, syphoning plastics from three distant continents. Angela Sun travels on a personal journey of discovery to uncover this mysterious phenomenon. Along the way she meets scientists, researchers, influencers, and volunteers who shed light on the effects of our rabid plastic consumption. [\(Preview\)](#)

Reef Reborn

50 Minutes - Coral reefs are the "rainforests of the sea", home to nearly ¼ of the ocean's marine species. In the calm, crystal clear waters off the north coast of Bali, miles of elaborate coral reefs once teemed with vibrant and colorful marine life. Most of Bali's coral reefs were destroyed by a deadly combination of coral bleaching, partly from global warming, and fishing with explosives and cyanide. New technology called 'mineral accretion' may allow the local community to once again have their reefs. [\(Preview\)](#)



March 19

Ireland's Wild River

60 Minutes - The Shannon is Ireland's greatest geographical landmark and the longest river. It is both a barrier and highway - a silver ribbon holding back the rugged landscapes of the west from the gentler plains to the east. On its journey south, the Shannon passes through a huge palette of rural landscapes; where on little-known backwaters, Ireland's wild animals and plants still thrive as almost nowhere else. [\(Preview\)](#)



The Himalayas

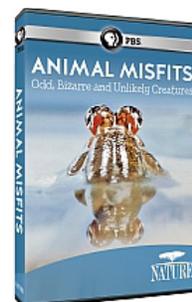
60 Minutes - The Himalayas are defined by superlatives. They defy both description and comprehension while at the same time teaching us about the awesome power and grandeur of nature. Born during the ice ages, they form the highest mountain range in the world, and reach across Asia for two thousand miles. The mountains themselves are considered sacred. These are mountains that will take your breath away! [\(Preview\)](#)

March 26th

Cold Warriors: Wolves and Buffalo

60 Minutes - For thousands of years, wolves hunted buffalo across the vast North American plains until the westward settlement of the continent saw the virtual extinction of these vast herds and their eternal predators, the wolves. However, this ancient relationship was not lost altogether, and continues uninterrupted in just one location - on the northern edge of the continent's central plains in a place called Wood Buffalo National Park. [\(Preview\)](#)

Animal Misfits



60 Minutes - Alongside the fastest, strongest, smartest animals are nature's misfits, odd, bizarre and unlikely creatures that seem ill-equipped for survival. Somehow they manage to cling to life and in some cases even thrive. Nature's Misfits reveals some surprising details about how evolution really works, demonstrating that all animals are remarkably well-adapted to their chosen way of life.

[\(Preview\)](#)

The descriptions of these films are borrowed from the producer's websites. If evening activities are cancelled due to weather at Tahquamenon or Manistique Schools, the makeup night will be Tuesday, March 31st at 6:30 p.m.

Nature Nut Column
Continued from page 5

Dear Naturenut,

How do butterflies survive the winter?

Stumped,
Butterfly Fan



Overwintered Eastern Comma
© Laura Wong

fritillary are examples of this type of butterfly.

Some butterflies even migrate – the most famous of course is the monarch known for its long southern journey to overwinter in Mexico before beginning its trip back north in the spring only to have its children or grandchildren reach the more northern latitudes of its range. Monarchs are not the only butterflies that migrate. Red admirals, common buckeye, and a handful of other butterflies migrate too.

Dear Butterfly Fan,

The great majority of butterflies overwinter in one of their life stages somewhere nearby. Depending on the species of butterfly it may overwinter as an egg, caterpillar, chrysalis or adult. Here is a short list of some local butterflies that overwinter in different life stages.

Egg:

- Bronze Copper
- Coral Hairstreak

Caterpillar:

- Eastern Tailed-blue (in seed pod of host plant)
- Great Spangled Fritillary
- Viceroy

Chrysalis:

- Swallowtails
- Clouded Sulphur
- Spring Azure (1st to emerge in the spring)

Adult:

- Question Mark (some may also migrate)
- Commas
- Mourning Cloak (usually 1st butterfly seen in the spring)

Some butterflies can be seen in our area and breed here but cannot survive the cold northern winters. These butterflies die off each year and have to repopulate north each spring and summer from southern areas.

The gray hairstreak and variegated



Overwintered morning cloak in meltwater puddle. Sara Giles, USFWS

Sincerely,
The Nature Nut

The questions in the Nature Nut Column come from questions posed by visitors. This month's columns were written by Sara Giles. If you have a question you would like the Nature Nut to answer email Sara_Giles@fws.gov. ❖



Common buckeye. © Laura Wong

Manager's Corner
Continued from page 1

further comment. All joking aside, it's impossible to be a good refuge manager if I don't physically know the landscape I represent. This is quite a large refuge, so it may take me some time, but I hope to do this as quickly as reasonably possible.

I will close by saying that in addition to reading lots of refuge plans and literature, I have been spending a lot of time meeting with staff and volunteers to learn about the good work they are doing. I value their experience and input and will use this to understand where we are as a refuge and staff and learn where we want to go. I hope we can all work together to figure out how to best get there. I am very excited and enthusiastic about the possibilities of what we will accomplish in the years ahead! ❖

Save the Dates

2015 Seney National Wildlife Event Calendar

Pure Curtis

February 14 (in Curtis) from 11 a.m. to 3 p.m.
The Refuge will work with the town of Curtis to host family oriented activities.

Winter Film Festival

March 5, 12, 19, and 26
Thursday nights in March, movies start at 6:30 p.m.
The movies last approximately 2 hours.

Volunteer Orientation

May 13 from 9:30 a.m. to 2:30 p.m.
Thinking about volunteering at the Refuge? Come to this orientation and see what it takes to become a volunteer. Lunch is provided.

Volunteer Bus Tour

May 14 from 9 a.m. to noon
Volunteers and potential volunteers are invited to join staff on a backcountry tour of the Refuge. We will discuss current management practices, wildlife, and habitat during this tour.

Sharp-tailed Grouse Survey

April 1 to May 14 at dawn
Rise and shine with the sharp-tailed grouse on the Refuge. Watch them dance on their lek and help us preform important research.

Twilight Tours

May 28 and June 4 from 9 p.m. to 12 a.m.
Twilight Tours offer a rare opportunity to experience the Refuge alongside Rangers, during the hours the Refuge is closed. Use your ears not just your eyes on these special nighttime tours to experience evening wildlife activity.

Wildlife Wednesday

June - August from 7 to 9:30 p.m.
Wednesday nights experience the Refuge backcountry on roads otherwise closed to public vehicles. Rangers will share Refuge history and management practices, while everyone scans the scenery for wildlife.

Children's Fishing Day

June 27 from 9 a.m. to 4 p.m.
Children's Fishing Day is geared toward kids ages 16 and under and families. The Visitor Center will hold games, arts and crafts, presentations, prizes, and a free fish dinner for all who attend.

Morning Bus Tours

July and August from 10 a.m. to 12:30 p.m.
Monday and Friday mornings enjoy a guided tour through the Refuge.

Jr. Duck Stamp Art Exhibit

Month of July
Take advantage of viewing the first place winners of original waterfowl artwork, by kids from each US state and territory. The artwork will be on display in the Visitor Center the month of July.

Seney NWR Photo Contest

Photos must be postmarked by August 31
Share your photos of Seney NWR and its Whitefish Point Unit with the public as they vote for their favorite in the people's choice contest. Photos will be up for judging by September 10 and the last day of judging is October 20.

Art on the Lake

September 5 (in Curtis)
Visit the Refuge's booth at *Art on the Lake*.

Fall Morning Bus Tours

September 4, 18 and October 2, 16 from 10 a.m. to 12:30 p.m.
Friday mornings enjoy a guided tour through the Refuge.

Youth in the Outdoors

September 26 from 9 a.m. to 4 p.m.
The day is designed to get youth out into the Refuge to explore and learn. Participants may choose from a variety of sessions. The event is open to kids ages 7-17. Scouts can earn badges!

Fall Color Float

October 3 from 11 a.m. to 4 p.m.
Join our staff for a 4-5 hour canoe/kayak trip down the Manistique River. Boat rentals are available locally.

National Wildlife Refuge Week – October 11-17

Additional nature programs may be announced. Visit <http://www.fws.gov/refuge/Seney/Events.html> for more events and details.

J to H Bridge Deck Replacement Project

by Greg McClellan



If you have been out on the Fishing Loop in the past couple of years I am sure you have noticed that J Pool has been lacking water. This lack of water doesn't seem to bother most wildlife much (loons need deeper water). It has been a great place to birdwatch with great egrets, sandhill cranes, ducks, and several other species of wading birds. The drawdown has been in place so that the J to H bridge could be replaced. Maintenance staff has also taken advantage of the lack of water to stabilize the dikes by placing riprap along the edges of the dikes to protect against erosion.

The J to H bridge was originally constructed in 1943 at a cost of approximately \$4,000. After 71 years of service it is time to replace the bridge. Refuge bridges are inspected every two years for structural soundness and condition per

Service policy, usually by contract inspectors. During the 2005 inspection, issues were first noted with rotting wooden stringers and after the 2007 inspection, the weight limit on the bridge was temporarily reduced from 19 tons to 3 tons. That fall two rotted stringers were replaced and the weight limit was again raised back to 19 tons. During the 2009 inspection, rotting was noted in additional timbers and the weight restriction back to 3 tons was put back in place and that restriction has remained in place for the past five years.

This restriction has prevented Visitor Services staff from including this portion of the Fishing Loop on various tours as the Refuge tour bus is over the 3 ton limit and prevented some private vehicles from driving the Fishing Loop. Funding was acquired through the Federal Highway Administration to replace the bridge decking. The initial design discussion and planning occurred in 2010 with funding tentatively planned to be available in 2012. After several delays, demolition began in November 2014. The bridge is targeted to be completed in late January to early February of 2015.

The Fishing Loop should be ready to be opened on May 15, 2015 along with the Marshland Wildlife Drive and Visitor Center. There may be some contractor activity on site after May 15th as efforts to re-vegetate the disturbed areas cannot be completed until the spring.

Most of the existing support structure will be reused, but the wooden bridge surface is being replaced with a concrete surface. The new bridge surface will be slightly wider than the existing bridge. The road approach and bridge surface will be moved slightly to the south. A metal walkway will be installed on the front of the bridge to allow staff to control the pools water levels.

The J Pool makeover should be completed by early spring and the water levels will be raised to their former levels. Refuge visitors should be able to fish from the pier again. The weight limit will be increased so that recreational vehicles will again be able to cross the bridge and the Wildlife Wednesday tours will reroute to the Fishing Loop. ❖

2014 Volunteer of the Year

Pat Foldenauer has been volunteering her time and energy, with consistency and dedication, for 14 years. During that time she has greeted and assisted thousands of visitors at the Visitor Center, helped with many special events, regularly took on the character of Perky Pike at Children's Fishing Day, is currently a member of the Seney Natural History Association board, and has baked and shared hundreds of batches of cookies with staff and volunteers. ❖



Lake States Fire Science Consortium

A JFSP KNOWLEDGE EXCHANGE CONSORTIUM



MIXED-PINE FORESTS, FIRE & SNAGS IN UPPER MICHIGAN

by Lydia J. Ball (Applied Sciences Program Intern, Seney NWR)

Dead standing trees, known as snags, remain after various types of disturbances in forests. In addition to providing habitat for flora and fauna, snags are an important part of nutrient cycling and carbon sequestration processes. Knowing characteristics of snags from benchmark or reference forests provides useful guidelines for those wishing to manage within the natural range of variability. Moreover, if so desired, forest managers can create snags with prescribed fire, girdling, and topping techniques. This study had two purposes: 1) to characterize the snag community of reference mixed-pine plots and compare them with altered plots and 2) characterize differences in snag progression using the techniques discussed above.

In 38 reference and 47 altered 500-m² plots (5,382-ft²) at Seney National Wildlife Refuge, the diameter at breast height (dbh) and stem densities of live trees and snags were measured. Reference plots were dominated by live red pines (*Pinus resinosa*) and, to a lesser degree, eastern white pines (*Pinus strobus*). As expected jack pines (*Pinus banksiana*) dominated altered plots.

Snags were found in 87% of reference plots and 85% of altered plots. The reference plots had a snag density of 45.8 snags ha⁻¹ (113.2 snags ac⁻¹) which falls within the range of old-growth red pine forests in Minnesota (24-140 snags ha⁻¹, 59.3-354.9 snags ac⁻¹). The altered plots had 76.1 snags ha⁻¹ (188.1 snags ac⁻¹). Analyses, however, suggest that there were only differences between reference and altered plot snag structure in the 10-cm (3.94-in) and 25-cm (9.84-in) size classes.

As part of an experimental treatment, 15 red pines, 5 eastern white pines, 61 jack pines, and 26 aspens (*Populus* spp.) (total=107 trees) >18-cm (7-in) dbh, were girdled using



MANAGEMENT IMPLICATIONS

1. Reference plots are red pine-dominated and are comprised of larger snags than altered jack pine-dominated plots.
2. Mechanical treatments yield different patterns of snag development compared to prescribed burned trees.
3. Burned snags decay slower than topped or girdled snags and 64% of girdled trees snap within four years.
4. Species longevity, snag size, and distances between trees must also be considered when evaluating snag longevity.

Want to learn more?

Greg Corace at Seney National Wildlife Refuge (Greg_Corace@fws.gov; (906) 586-9851 x14.

Corace, R.G., III, A.T. Stout, P.C. Goebel, and D.M. Hix. 2013. Snag benchmarks and treatment options for mixed-pine forest restoration in eastern Upper Michigan. *Restoration Ecology* 21(5): 608-616.

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common logging equipment in July and August 2007. To account for wind protection from other trees, the distance to nearest tree and the number of trees in a 10-m (32.8-ft) radius were recorded during girdling. The development of decay classes (DC) of girdled trees were compared with retrospective analyses of snags created in 2004 from prescribed fire and topped trees. In 2008, four years after the creation of the prescribed fire and topped snags, 30 prescribed fire trees and 31 topped trees were sampled. The prescribed fire snag sample was composed of 18 jack pines, 9 red pines, and 3 eastern white pines while the topped snag sample was composed of 26 jack pines and 5 aspens.

After four years of treatment, snags were classified into DCs ranging from 1 to 5, where recently dead trees characterize DC1 and severely decayed trees characterize DC5. The modal DC for prescribed fire, girdled trees, and topped trees were DC3 (43%), DC4 (38%), and a tie between DC2 and DC3 (45%) respectively (Figure 1). Girdled short-lived species, such as jack pine and aspen, were less likely to be in DC1 than girdled long-lived species, such as red pine.

Different species DC development rates were affected by different factors, including height, size, and distance to nearest tree. For example, predictor variables for girdled jack pines DC development were dbh and distance to nearest tree, but the predictor variable for prescribed fire jack pine snags DC development was the number of trees within a 10-m (32.8-ft) radius.

It is unclear what factors are causing mortality of small trees within the altered forests and more research is needed, particularly concerning the possibility that snags are developing from competition. Prescribed fires in altered areas are expected to be more severe than in reference areas because of the prevalence of live jack pine, which promotes severe fires, and the abundance of dead trees as well.

Attempting to emulate natural disturbance patterns has been demonstrated to be highly valuable in numerous studies. In the northern Lake States, forests that were formally mixed-pine (red pine and eastern white pine), have been transformed by anthropogenic forces, such as fire suppression. Currently, many of these areas are artificially regenerated pine plantations and monotypic jack pine forests. We suggest that reference mixed-pine forests in northern Lake States that contain 24-140 snags ha⁻¹ (59.3-345.9 snags ac⁻¹) may set a baseline for managers willing to promote more natural structural patterns in plantations and other stands. And by using the range of treatments studied, land managers may emulate natural disturbance patterns to produce a larger variety of habitat, dead and live, for a greater variety of flora and fauna. ❖

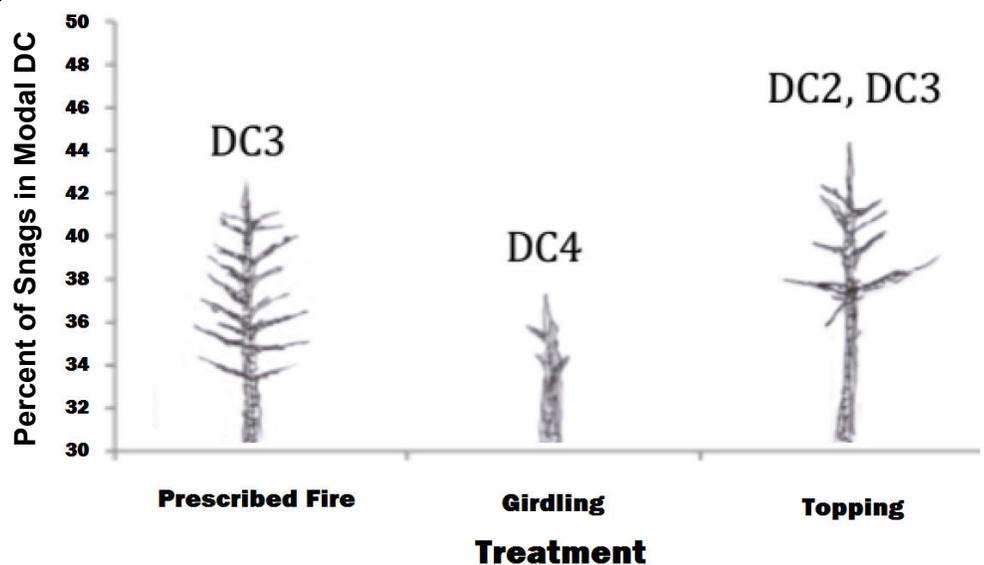


Figure 1. Percent of modal decay class (DC) stages for prescribed fire, girdling, and topping.

Related information:

Fraver, S. and B. J. Palik. 2012. Stand and cohort structure of old-growth *Pinus resinosa*-dominated forests of northern Minnesota, USA. *Journal of Vegetation Science* 23:249-259.



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