



## Swallow Tales

### Hirundo Winter Newsletter

# Diet of the Ancient “Hirund-ians

Rebecca Sgouros & Matt Stern

While Hirundo may seem to be home only to woodland critters, an extensive archaeological excavation there revealed that human occupation started 7,500 years ago and lasted for over four millennia. While it is difficult to know for sure how people lived off the land, investigations of the Hirundo Archaeological Site have provided some clues. The presence of multiple hearths suggests that the site may have hosted more than one family group at any given time. The location of the site also gives us an idea of what people were eating.

The nearby rapids on Pushaw Stream were probably advantageous for easily trapping fish. Anadromous fish (those that migrate from the sea into fresh water to spawn) that may have been eaten would have included many modern-day species such as alewife, shad, sturgeon, striped bass, and eels. It seems likely that the marshy wetlands throughout the area also provided important food resources. Excavations done in the 1970's found bones of beaver, muskrat, turtle, bear, and fish within the site, suggesting that these animals were eaten by the first people.

While research accomplished thus far only tells us about fish and mammals that were eaten, it is likely that the menu was more varied and included many plant resources. Over the long occupation, the diet of Hirundo's inhabitants would have changed as their local environment evolved.



Ground Felsite Plummet, Archaic . It is hypothesized that they were used as weights for fishing.

## What's Inside

### Adventures of Alex and Nick

- \* Frigid Day 2
- \* Insects in Winter

### Upcoming Programs 3

### Support 4

### Quarterly Question 4



Hirundo excavation in progress



Chert Projectile Point

**The adventures of Alex and Nick:** Who we are — My brother Nick, (10), and I (13) have always been interested in wildlife. We love learning about the environment, how animals interact, the ecosystem, and the nature programs and volunteering at Hirundo.

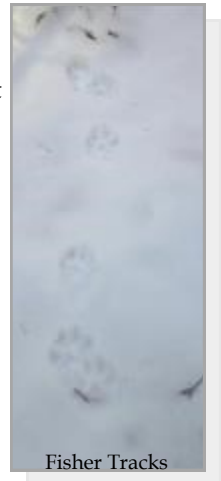
## Frigid Day Alex Baron

On a frigid Saturday, when the temperature was hovering around zero degree Fahrenheit, no sane human would want to go outside for more than a few minutes. But a few of us were crazy enough to stay outside for more than three hours, and I was one of them. At 7:30 a.m. on Saturday, December 14, the day for Christmas Bird Count, the temperature was -7° F. Rad Mayfield and Gudrun went out into the Hirundo woods to look for birds. They managed to find several species of birds, including chickadees, red-breasted nuthatches and blue jays. My mom (Amy), Nick and I met Gudrun at 10:00 a.m. We walked out from Gate 1 into the woods on the other side of the road (Gate 6),

onto Trapper's Trail. Along the way, we stopped to hear if any bird was about, but the forest was eerily silent. We then took Indian Pipe Trail and finally spotted a male downy woodpecker in the distance. Although there were almost no birds to be seen, tracks in the snow were abundant. There were multiple mouse highways going from one tunnel to the next, and some tracks told us of a squirrel who had gone digging for his stash of nuts. We spotted deer, snowshoe hare tracks, and often a grouse's tracks crossed the trail. Later in the hour we found a set of mysterious tracks. By that time, my toes and fingers were frozen, but we all agreed to follow the tracks towards their probable origin. The tracks looked like those of a fisher (showing neatly marked claws), but were not in

the familiar fisher formation, two-by-two. We noticed that the animal could pass underneath low hanging branches and deduced its low stature. Following the tracks, we crossed one deer highway, and followed the second deer highway to Beech Trail, where we found another set of those mysterious tracks - from a loping fisher. In this lope the hind and front track of one side fell on top of each other.

Next we walked to Perch Pond. No sign of any animal activity except for a few ice fishermen on the other side, drilling holes in the ice. So we returned.



Fisher Tracks

## Insects in Winter Nick Baron; Ed. Amy Baron

Winter has begun in Maine. Insects have coped with the wet months of spring, the hot months of summer, the cool months of fall, and now the bitterly cold and dry months of winter.

Insects usually cannot remain active during winter because of shortage of food. Some insects cope with this situation by caching food they have found throughout the year. An example is the American Burrowing beetle (*Nicrophorus americanus*), an insect species that mate for life, which collects carrion and animal waste, and buries them for its future food as well as for the beetle larvae.

Springtails, commonly known as snowfleas, are far too small to drag a carcass to a specific place. Instead, they survive the winter by staying in groups and jumping to possible food. Most insects that remain active are aquatic insects, which stay under the ice hunting other aquatic insects, fish, tadpoles and any other organisms they can capture and prey on. Aquat-



Springtail

ic insects face a big challenge due to the ice -- how could they get air? Some aquatic insects have gills, but water scorpions, giant water bugs, the insects in the family Nepidae, and the adult beetles in the family Dytiscidae need oxygen in the air. These insects have to either fly to a stream or river, where there are a lot of fish and other predators, or they can keep a small hole open through the ice near the shallows.

However, not all insects stay active during the winter. A handful of them go into a state called diapause, a suspension of development when the insect freezes internally and its heart-

beat almost stops. Most butterflies and moths enter diapause in the winter. They could go under leaf litter, under bark, or inside tree holes, depending on the species. One of the most common butterflies in Hirundo is the Mourning Cloak butterfly (*Nymphalis antiopa*), which buries under leaf litter.

Some insects migrate south in fall to avoid the freezing temperature in Maine winter. Among them are the darner dragonflies in the family Aeshnidae and the monarch butterflies. However, grasshoppers, mantids, and cockroaches died in fall after laying their eggs.

These bits and pieces of carrion are what the springtails will feed on.



Morning Cloak. Credit: © Index Open

## Upcoming Programs 2014

DATE	TIME	PROGRAM	PRESENTER	LOCATION
Jan. 11, Saturday	10 a.m.	<b>Winter Ecology: Animal Signs</b>	Bucky Owen	HWR Gate 1
Jan. 25, Saturday	1 p.m.	<b>Winter Ecology</b>	Bucky Owen	HWR Gate 1
Jan. 26 Sunday	1 p.m.	<b>Introduction to Snow- shoeing</b>	G.Keszöcze	HWR Gate 1
Feb. 2, Sunday	1 p.m.	<b>Snowshoe adventure on Groundhog Day</b>	G.Keszöcze	HWR Gate 1
Feb. 7, Friday	7 p.m.	<b>3 Restoration Projects</b>	Bucky Owen	Old Town Museum 353 Main St., Old Town
Feb. 14, Friday	6:30 p.m.	<b>Valentine Snowshoe- ing Adventure</b>	Hirundo Volunteer	HWR Gate 1
Feb. 16, Sunday	11 a.m.– 4 p.m.	<b>Dogsledding and Family Day</b>	Song in the Woods and <b>YOU</b>	HWR Gate 1
Mar. 5, Wednesday	6 p.m.	<b>Owl Walk</b>	Paul Markson	HWR Gate 1
Mar. 12, Wednesday	6 p.m.	<b>Owl Walk</b>	Paul Markson	HWR Gate 1
Apr. 19, Saturday	9 a.m.	<b>Beyond the Backyard I</b>	Paul Markson	HWR Gate 1

**"In the end  
we will conserve only  
what we love,  
we will love only what  
we understand,  
and we will understand  
only  
what we are taught."**

## YOUR SUPPORT

Hirundo Wildlife Refuge is a private, non-profit organization that depends on public donations and volunteers to run its programs.

We receive funding from grants and donations for the preservation of wildlife and forest management and are not supported financially by the University of Maine, or any other institution.

Your support of Hirundo is greatly appreciated. Please make a tax deductible donation online at [www.hirundomaine.org/support](http://www.hirundomaine.org/support) or by mail to:

*Hirundo Wildlife Refuge  
P.O. Box 266  
Orono, Me 04473*

Thank you!



**SMILE**

- a message sponsored by  
Hirundo Wildlife

**Hirundo relies on investments of time and money made by the local community. Thank you for your support. We could not do it without you!**



Original art brought to you by Snow and Ice

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Stephanie Larouche	Constant Albertson	Glen Rea	Linda Koehler
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and by the many others who contributed at the individual gates.

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Penobscot RiverKeepers  
University Extension Service  
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Steven Madera & members of Life Jackets program  
UMaine  
- Chapter of The Wildlife Society  
- Bodwell Center for  
- Volunteers  
- Alternative Spring Break Groups  
- Woodmen's Team  
RSU# 34 Chaperones  
We apologize should your name be missing.

## YES, I WANT TO VOLUNTEER!

We welcome your skill and interest!

### BOARD OF TRUSTEES

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Stephanie Larouche, Chair  
Veronica Larouche  
Rad Mayfield, III  
Roger Merchant  
Bucky Owen  
Gloria Vollmers, Treasurer

### Outdoor Volunteer Activities

- ◆ Trail maintenance
- ◆ Removing non-native invasive species
- ◆ Lead walks, present a program
- ◆ Public Outreach
- ◆ Fauna & Flora inventories
- ◆ Photography

### Indoor Volunteer Activities

- ◆ Administrative and technical help
- ◆ Publicity
- ◆ Coordinate Volunteers
- ◆ Fundraising
- ◆ Outreach



## Quarterly Question

**Name the two frog species that turn into Frogsicles.**

**Send your answer by February 15 and win a Hirundo bird feeder.**

Reply to [web@hirundomaine.org](mailto:web@hirundomaine.org),  
or to  
Hirundo Wildlife Refuge  
P.O. Box 266, Orono, ME 04473

### Answer to previous Quarterly Question:

Meadow Jumping Mice are true hibernators as are Woodchucks, Little Brown Bats and Chipmunks. Black Bears nap.

Glen Koehler received a bird feeder for his correct answer. Congratulations!