

EXPLORING THE LINNY LEVIN TRAIL AT ZEBEDEE WETLAND



UPPER VALLEY
LAND TRUST



1–Ecosystem Transition

This is a transition from a wetland ecosystem to a hemlock forest. How do your surroundings change?

What are the types of trees you see in the two different areas? Will there be different animals in the hemlocks compared to the wetland?

2–2nd Grade Island

You're standing next to a large beaver dam! Beavers build dams to raise the water level, giving them better access to food and protection from predators. What do you do to get better access to food? How do you impact your own house or environment?

3–Bridge Over Fairy Land

This bridge was built so that hikers can get over the stream that comes from the beaver dam. Some Thetford Elementary students think that fairies live in this part of the woods. What interesting plants do you see around the bridge and by the water?

4–Observation Point

At this point of the trail, you can see the entire length of the wetland. This is a great spot to watch for bird and mammal activity. Do you see any water fowl swimming or wading in the water? Are there any mammals in the wetland?

5–Harmful Plant Invasion

Over the last several years, the Upper Valley Land Trust has removed invasive plant species like buckthorn, barberry, and bittersweet from this area of Zebedee. Does this area look different than other parts of the trail? What plant species do you see?

6–Reflection

Mindfulness is an activity that provides calm and improves awareness. Find your own mindfulness space. Without talking for 5 minutes, notice one thing in each of your five senses. What are you able to experience in this environment while sitting quietly?

Activity 1 - Ecosystem Transition

Goal: Understand that there are differences between types of ecosystems and to explore the species in different natural communities.

Description: While walking counter-clockwise around the Linny Levin Trail Loop at Zebedee Wetland, you encounter a long bog bridge over the wetland right before entering the woods. These two ecosystems are made up of different plants that support different types of animals. What plants and animals do you see?

Steps:

1. Observe three different types of plants near the bog bridge overlooking the wetland.
2. Walk into the woods and observe three different types of plants near the trail in the woods.
3. Compare differences between these plants, talk about how they have adapted to their environment, and think about which animals would use these plants to survive in the two types of natural communities.

About Ecosystems and Natural Communities:

- A natural community is made up of the species that live together in a natural setting.
- Vermont has more than 90 different natural communities.
- Some species, like black bears, use many different natural communities throughout their life; other species, like rare orchids and peregrine falcons, may only survive in a few specific types of natural communities.
- The species within and location of natural communities will change over time as climate change affects our environment.



Photo and Information Source:
vtfishandwildlife.com

Activity 2 - 2nd Grade Island

Goal: Think about and experience how animals can impact their surroundings and habitat.

Description: This island has been known as 2nd Grade Island for as long as anyone in Thetford can remember. I wonder how it was named! This spot provides a great view of the beaver dam at Zebedee Wetland. Take a look at this architectural feat of nature and do your best to build your own!

Steps:

1. Pretend you're a beaver. Collect sticks, leaves, rocks, and other natural things that you can find in the woods.
2. Bring your collected items to one spot along the trail or by a stream and try to build a small dam or structure with the items you've collected.
3. Look at the structure you've made and notice its impact on the surrounding environment. Talk about how a beaver would build their own dam to change their habitat and notice the similarities and differences between your structure and the large beaver dam. Return the natural things to where you found them.

About Beavers:

- Beavers are the largest rodent in North America and their range includes most of the United States and southern Canada.
- Beavers build dams, lodges, burrows, and canals to access food more easily without having to move far from the water.
- Beavers are herbivores and consume bark, leaves, twigs, and roots growing near water; their most preferred food is the inner bark of deciduous trees, called the cambium layer.
- Beavers are most active in late afternoon and throughout the night.
- They can swim at speeds of 2 mph and can stay underwater for as long as 15 minutes without surfacing.



Photo and Information
Source:
vtfishandwildlife.com

Activity 3 - Bridge Over Fairy Land

Goal: Explore a unique setting while practicing observational skills, art, and imagination. Develop the use of a "micro" observational lens.

Description: Some Thetford Elementary students have reported seeing fairies and other magical creatures in this unique habitat near the bridge over the creek. There are many different types of small plants and animals that we can discover if we slow down to take the time to look at a small section of nature. This activity will help you practice your drawing skills and open your eyes to micro environments, where you may find some small living beings!

Steps:

1. Find a spot to sit near the bridge that goes over the stream and get your paper and pencil ready.
2. Choose one square foot of space that you are going to focus on and begin to study the types of plants, insects, moss, and fungus that you see.
3. After ten minutes of studying your square foot of nature, do your best to draw on your paper everything you can remember from studying that area.



Photo Source:
UVLT

Activity 4 - Observation Point

Goal: In contrast to the last activity, develop the "macro" observational lens by practicing natural observation.

Description: Now that we've worked on making observations in a very small area, let's apply those observational skills to a "macro" lens. Take a minute to sit on the edge of the wetland and take in the scenery and natural happenings of the wetland. It is said that you have to stay still and quiet for 15 minutes before nature begins to move again. What happens over time as you quietly observe the wetland?

Steps:

1. Find a spot next to the wetland where you'll be comfortable sitting for awhile.
2. Write down the sounds you're hearing and the things you see right as you sit down, including birds, plants, animal noises, movement by plants or animals, what the horizon looks like, and colors you see.
3. Once your stopwatch reaches 15 minutes, write down the new things that appeared and how the landscape has changed while you were quietly observing, including animals that have appeared or new noises you've noticed.

How Observing Nature Benefits Us:

- Going for walks in forests can lower your heart rate, indicating lowered stress levels and more relaxation
- Spending time in a natural setting can improve your memory and increase positive emotions
- Being around beautiful scenery and plants may improve your willingness to be kind and generous to others



Photo Source:
UFLT

Information Source:
greatergood.berkeley.edu
"How Nature Can Make you Kinder,
Happier and More Creative"

Activity 5 - Harmful Plant Invasion

Goal: Teach the impact of invasive plants on an ecosystem and develop basic invasive plant identification skills.

Description: Invasive plants are plants, animals, and other organisms that are introduced to a new place and cause harm to the existing ecosystem, economy, or human health. Upper Valley Land Trust staff and volunteers have worked over the last several years to remove invasive and harmful plants from Zebedee Wetland to help the plants in this area that are native to Vermont. If invasive plants are allowed to take over an ecosystem, the food web and connections between species that all animals and plants depend on is harmed. While we have removed many of the invasive plants in this area of Zebedee, there may be a few remaining! We need your help to monitor this area in order to protect the health of Zebedee's ecosystem.

Steps:

1. Study the photos below and memorize the shape and color of the invasive plants.
2. Look around at the areas near the trail for any signs of these types of plants.
3. If you find any living invasive plants, contact the Upper Valley Land Trust! We may be able to give you instructions on how to remove some of these invasive plants from Zebedee or from around your own house. Good job, Ecosystem Protector!

Japanese Barberry



Common Reed



Asiatic Bittersweet



Common Buckthorn



Activity 6 - Reflection

Goal: Practice mindfulness in order to promote calm and introspection.

Steps:

1. Take a seat near the bench that is next to the wetland or somewhere else in the forest.
2. Begin by thinking about four of your senses. What do you see and hear? What can you feel and smell? Keep track of what you notice in each of your senses.
3. After you take inventory of your senses, talk to someone with you about your experience with practicing mindfulness and your list of things you sensed.

About Mindfulness:

- Mindfulness practice can reduce the negative effects of stress and increase students' ability to stay engaged.
- Mindfulness can improve emotional well-being.
- Creating consistent space for mindful practices can positively affect the culture at work or at school, emphasizing acceptance, self-care, and empathy.



Photo Source:
UFLT

Information Source:
gse.harvard.edu
"Making Time for Mindfulness"