



Weaselhead Grade 4-9 Field Trip Program Package “Recreational Impacts on Natural Areas”

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This Program was developed with the generous contribution from Alberta Ecotrust Foundation.



Thank you for your participation in our Weaselhead Education Program!

The following items have been enclosed in this Teacher’s Guide package:

- A map of the Weaselhead.
- Field trip program outline.
- Behavioural expectations.
- Background information on the Weaselhead Area.
- Student Worksheets.



Pre-trip preparation:

- Please have the students broken into 4 groups per class prior to field trip:
Water, Vegetation, Wildlife, Soil
- Students should bring their field journals or set up a field trip journal with scrap paper including the worksheets at the end of this document.
- If possible, have an adult leader (parent volunteer) per student group.
- View the Weaselhead Field Trip Introduction PowerPoint presentation.

Participants should bring:

- **Appropriate clothing for the weather. Dress in layers.**
- Water bottle.
- A snack and a waste free lunch for a full day field trip.
- Pencils (pencil crayons, crayons, markers or paint is optional).
- Field Journal
- Something hard to write on if your Journal is scrap paper stapled together (cardboard stapled to paper or clipboard etc.).
- If uncomfortable with sitting on the ground, then something to sit on (for example: A grocery bag with newspaper in it and taped shut). Lunch is held outside with no benches. Students will be sitting on the ground.

NOTE: This entire program is held outside with no indoor facilities, students must be prepared for all weather and conditions. They will be hiking approximately 4km on dirt trails and should be wearing appropriate footwear.



Weaselhead Natural Environment Area



Program Outline

PRE-VISIT OPTIONS:

- Use Robert Batemans Get to Know CD activity to familiarize students with the Weaselhead Natural Environment Area.
- Visit our website and familiarize students with plants and wildlife using the species index. Discuss the Biodiversity of the area.
- Brainstorm recreational impacts expected to see. Identify student outdoor recreational activities.

Please have each class broken into 4 groups prior to arriving at the Weaselhead with assigned group names of **Soil, Water, Vegetation, Wildlife**

Intro 10-15 min

Meeting at the Weaselhead Natural Environment Area's North parking lots located west of the intersection of 66th Ave & 37th Street SW. Bus to drop off students at the Weaselhead Shed located in the NW corner of the Parking lot.

- Introduction to Naturalist Leaders
- Overview of Rules & Expectations
- Bathroom Opportunity
- Weaselhead History
- Identify potential recreational activities. Ask students for a show of hands regarding their confidence level in informing friends and family of their potential negative impacts from recreational decisions.
- Ask teacher what the classroom themes we can add value to on the field trip
- Introduction to the Importance of Biodiversity

Activity - Soil Erosion and Compaction 15 min

Procedures: From the top of the Weaselhead there are several illegal paths leading down the escarpment. Students will use a pencil test to measure soil compaction, record water absorption and plant life located on these paths to studies the effects of soil compaction. Students will compare to areas adjacent with no trails. Students will discuss biodiversity and the connections to life surrounding the trail and impacts on the watershed. (Some groups may continue down the path and conduct Soil Erosion and Compaction Activities at different times to distribute each class group throughout the park)

Activity – Plant Diversity 15min

Procedures: Measure the plant diversity in the grassland ecosystem. Students will have transects, or ropes, or hoops to measure consistently through out ecosystems. At least one study will include a pathway.

Activity – Insect Study 10min

Procedure: "Shake a Shrub" Activity & Collect leaf litter at the base of a native plant shrub and non-native plant shrub and count the amount of insects found. Count the insects found on the shrub. Observe leaves for signs of insect feeding. Observe plant for signs on insect galls.

Snack Break 5 min



Aspen Stand 15 min

- Discuss the Aspen Stand Ecosystem and identify Trembling Aspen Trees
- Soil Erosion and Compaction Activity (May be done at the end of field trip)
- Plant Diversity Activity
- Optional: “Get to Know a Tree” Activity

Riverine Forest 15 min

- Discuss the Riverine Forest Ecosystem and identify Balsam Poplar trees
- Students will observe and discuss the bird seed in the illegal bird feeders found in the park, identifying if it is native or healthy for the area and wildlife.
- **Activity – Chickadee Territory 5min:** Students will identify and sing the Black-capped chickadee’s territorial song “Cheeseburger”. They will see how easy it is to hear each other sing their song to establish their territories with no other sounds. Other students then will be introduced to make sounds of traffic, ATV’s, and other potential recreational sounds. Students will determine how easy it is to hear the songs to establish bird territories. (This activity may take place in other locations of the park to distribute each class participating).
- Plant Diversity Activity

Elbow River 45 min

- Soil Erosion and Compaction Test on side trails
- Water Quality Testing: Each Group will test different parameters and share their results with the class and discuss
 - Turbidity
 - Dissolved Oxygen
 - Temperature
 - pH
 - Nitrate & Nitrite
- Plant Diversity Activity in the Tall Shrub Ecosystem
- Activity – Sediments and Water Flow

Bridge over the Elbow River 5min

- Discussion of upstream recreational impacts in the watershed
- Observe water turbidity and measure on a scale of 1-10

Benches on the south side of the Bridge 5 min

- Soil Erosion & Compaction Tests

Lunch 25min

Wetland 15 min

- Naturalist leader will collect a sample of wetlands aquatic invertebrates for students to observe bioindicator species for water quality
- Scenario Activity: Each group is given a scenario to act out to the class.



Spruce Grove Forest Ecosystem 5min

- Plant Diversity Activity

Back to the Top of the Hill 20min walk, up to 30min of activities

- Take A Stand Activity
- Game: Wildlife Movement
- Conclusion: Sharing mitigation ideas and strategies to reduce recreational impacts
- Ask students for a show of hands regarding their confidence level in regards to informing friends and family of their potential negative impacts from recreational decisions.

A variety of games, learning activities, ambulatory activities and nature interpretation will take place between described stops based on enquiry opportunities presented by and to the group.

POST-VISIT OPTIONS:

- Students may study past aerial photos of the Weaselhead or a different natural area. Making predictions based on the recreational land use they can draw or create their own picture of what the area may look like in the future based on different levels of mitigation and responsible recreational activities.
- Students are asked to make connections from their field trip to connect to their own neighbourhood and nearby natural areas. How have recreational impacts affected their community?
- Have student's repeat experimental studies in the school yard.
- Encourage students to take action to protect a natural area from recreational impacts, or to develop mitigation strategies for a specific area and recreational activity.
- Move from awareness to understanding by implementing the students new found understanding to a current issue promoting positive action to create positive change to the current issues situation. (for example: Participate in the Jumbo Wild campaign. Or write letters to political representatives about recreational impacts students are concerned about.)
- Establish a student council or advisory group committed to environmental stewardship.
- Contribute to water quality data! Visit:
 - http://beta.albertatomorrow.ca/info/for_teachers
 - Sign Up – Students can Sign up too! Visit http://beta.albertatomorrow.ca/GIS_Simulator/Auth/Signup
 - Login and Set Your Location then go to “Field Studies”
 - Click on “New Observations” And enter your water quality results.



Behavioural Expectations of ALL Group Members:

- Remain in the assigned group and keep in sight of supervisors at all times.
- There is always an adult leader in the lead and at the end of the group.
- NEVER remove natural items from the area. Vegetation, insect, mammal, bird and amphibian life is to be respected and left in the natural habitat.
- Leave no trace of our visit. All litter must be brought out by you.
- Unsafe behaviour such as tripping, wrestling, and teasing is unacceptable and may result in withdrawal from the activity.
- Cooperation by listening, participating in group discussions, observing and recording is expected during the learning experience.
- Each adult is expected to participate in the activities and to provide due safety and care for each of the students.

Activities may include:

- Weaselhead Wildlife Corridor Relay: Students represent herbivores navigating through terrain with predators and human recreational impacts.
- Predator Prey Game: Different variations to represent predator prey dynamics with human recreational impacts included.
- Web of Life: Forming a circle, participants are assigned a species with identification cards. Using a rope as a visual they make connections to each other identifying species' interactions forming a web. Different factors are introduced causing the web of life to collapse.
- Hug a Tree: In partners, students take turns acquainting themselves with a certain tree with eyes closed, then finding the tree with eyes opened.
- Phosphorus: Coloured chips are distributed on the ground representing phosphorus. Participants represent algae and collect the chips. With excess phosphorus (caused from soaps for example) the water body develops an algae bloom.
- Weaselhead Theatre: A summary activity where each group selects a topic visited in the field trip and presents a creative play/song/skit teaching the rest of the group.

Weaselhead History:

It is unknown exactly how the Weaselhead area received its name. It is however known that it has nothing to do with weasels, nor a weasel's head. Some say the area is named after the Chief of the T'suu Tina First Nations people holding authority at the time of early European contact. Sam Livingston, whose house is now part of Calgary's Heritage Park, was the original European settler to the Elbow River valley in the region now known as the Weaselhead.

Today, the Weaselhead Natural Environment Area covers approximately 404 hectares or 989 Acres and receives the highest level of protection available to a Calgary Natural Area. The area consists of the Elbow River, the north and south escarpments of the river valley, the river floodplains and delta. A walk through the area will give the keen observer insight into the geological, anthropological and natural history of the area.

The river was formed by the melt waters from the glaciers at the end of the last glaciation period approximately 10 thousand years ago. Today's floodplains hold many clues to the past.



We can see previous routes taken by the river by looking at the cutbanks, pointbars, and oxbow wetlands.

Fossils dating back 35 million years can be seen in the sandstone deposits along the cliffs of the river valley. There are numerous indigenous archaeological sites, including buffalo kills and hunting campsites that can be dated as recently as the buffalo runs that existed in 1887.

The natural history of the area is extensive. Coniferous forests of White spruce can be found next to deciduous riverine forests of Balsam poplar mixed with shrubs such as Red-osier dogwood and wolf willow (silver-berry) and stands of Trembling aspen. During the warm seasons wildflowers bloom in the grassland areas. There are numerous aquatic habitats ranging from riverine wetlands, to beaver ponds, to the river itself; all supporting a variety of aquatic plant life. The flora of the area is made up of some 480+ species. Some of these species are endangered or threatened such as the Western wood lily.

The varied plant life supports a variety of wildlife forms. There are untold numbers of invertebrates both aquatic and terrestrial. At least ten species of fish are known, with several being sought by sport fishers. Although there have been no recent recorded sightings of the endangered northern leopard frog it was once found in this area. Amphibians are found in the area such as the tiger salamander, the boreal chorus frog and the wood frog. Few reptiles inhabit Alberta, but the garter snake is sometimes seen here. Over 200 species of birds, from waterfowl, to song birds, to raptor use the park. Some of these use the region as a stopover during fall and spring migrations, others nest in the Weaselhead during the summer months, still others live here all year round. For mammals like the shrews, hares, deer, and beaver, the Weaselhead Natural Area provides a permanent home. Other species, including moose, black bear, and lynx are known to use the region on a seasonal basis.

REMEMBER: Never remove anything from the area, Fossils and certain plant species are protected in Alberta

