Weaselhead Grade 6
Outdoor Program Teacher's Guide
Biodiversity and Ecosystems

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Thank you for your participation in our Grade 6 Weaselhead Education Program! This program is specifically designed to meet cross curricular learning outcomes focused on the new Alberta Science and Social Studies curriculums. Our program is led by a Weaselhead Naturalist who brings their own expertise and personal experiences to your program.

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

- Curriculum Connections
- Program Objectives
- Participant Guidelines
- Behavioural Expectations
- Program Outline
- Activities
- In-class Follow Up Activities
- Background Information on the Weaselhead Area

Curriculum Connections

Science:
Students investigate climate, changes in climate, and the impact of climate change on Earth; Students investigate the characteristics and components of and interactions within ecosystems; Students investigate and describe the role of explanation in science.

Guiding Questions

Science
Earth Systems

- What relationships exist between climate and changes on Earth?
- How has climate change influenced traditional ways of living off the land?

Living Systems

- In what ways are ecosystems complex?
- What are some interconnections between plants, animals and nonliving things in different ecosystems?

Scientific Method

- What is the purpose of scientific explanation?

Program Objectives

Students learn about different ecosystems, their biotic and abiotic components. They investigate how climate and extreme weather affect ecosystems. This information can be used to develop and test a hypothesis based on the scientific method after the program.

Before the Trip

Pre-trip Preparation

- Please have the students broken into groups of 4-5 students
- Students should bring a journal or set-up a field trip journal on a clipboard with blank paper.

Participants should:

- dress for the weather; dress in layers and wear appropriate footwear.
- bring a snack, lunch, and plenty of water for a full day field trip.
- bring pencils or pens.
- bring a field journal OR blank paper on a clipboard.
- bring a plastic bag OR mat, if the student does not want to sit on the ground. (Optional)

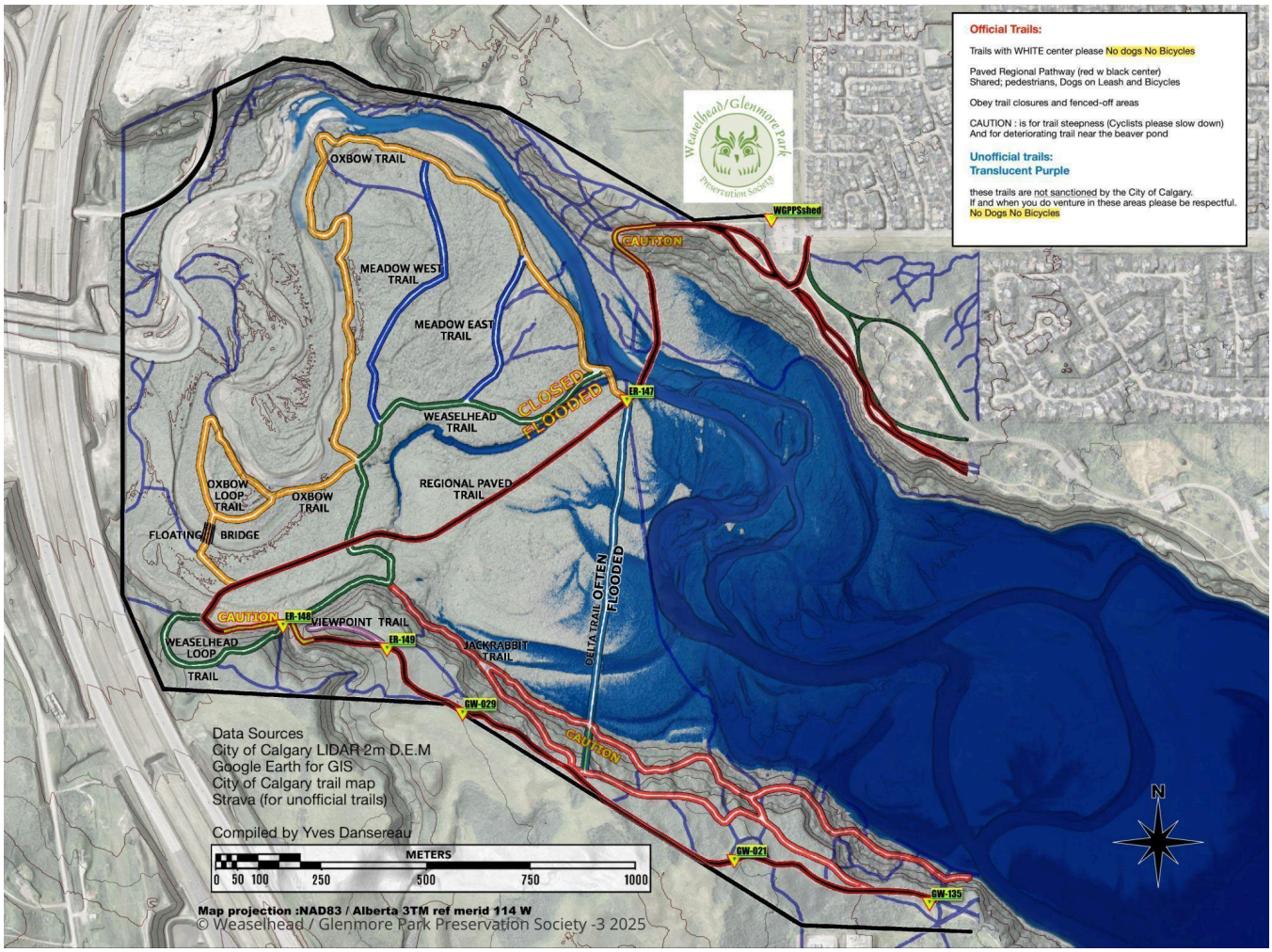
NOTE: This entire program is held outside with no indoor facilities. Students must be prepared for all weather and conditions. They will be hiking approximately 3-5 km on dirt trails. Appropriate footwear is a safety requirement.

Behavioural Expectations

- Remain with the group and keep in sight of supervisors at all times.
- There is always an adult leader at the front of the group and at the end of the group.
- Never remove natural items from the area. Vegetation, insects, mammals, birds, and amphibian life is to be respected and left in the natural habitat.
- Leave no trace of our visit. All litter must be brought back out.
- Unsafe behaviour such as tripping, wrestling, fighting, 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.
- No headphones or earbuds are allowed. This is for the safety of the participants.
- **Both adult's and student's cell phones must be kept away unless taking pictures or in case of emergency.**

Map of the Area

Your group will be starting their hike at the 37th Street Parking Lot. Meet your Naturalist leader at the shed located in the NW corner of the parking lot. We will hike into the Weaselhead down the hill to cross the bridge and explore the area. Depending on conditions, we may also be using the fields and the Aspen Forest in North Glenmore Park.



Field Trip Program Outline: Full Day

9:30 am	• Meet your Naturalists at the grey shed in the NW corner of the parking lot at 37th Street.
9:30 – 9:45 am	• Introduction, Land Acknowledgement, park rules, and expectations • Washroom visit
9:45 – 10:30 am	• From the top escarpment, observe and discuss the Elbow River watershed and its importance for sustaining biodiversity • Hike to learn about different life in the park • Learn how artificial light impacts plants and animals.
10:30 – 10:40 am	• Snack break
10:40 – 11:40 am	• Hike towards a pond study site • Activity: Pond study. Students observe invertebrates and learn how they connect to their environment.
11:40 am – 12:10 pm	• Lunch
12:10 – 12:50 pm	• Activity: Build a Beaver and discussion of beavers as ecosystem engineers
12:50 – 2:15 pm	• Hike and lessons • Activity: Build a Tree • Activity: Web of Life
2:15 – 2:30 pm	• Walk back to parking lot • Wrap up and conclusion: Highlighting the importance of stewardship, the actions the Weaselhead Society takes, and the actions the students can make themselves.

Activities

- Pond Dip: Students learn about the vital systems that support different organisms in the aquatic environment, compare those to humans and discuss how different human activities impact them.

- Build a Beaver: Students learn about different adaptations beavers have that have helped them be such successful creatures. They also learn about the importance of beavers in building Canada as we know it today.

- Build a Tree: Learn about external and internal tree structures in relation to function. Students take on the roles of heartwood, sapwood, cambium, bark, and roots. They learn how insects and woodpeckers impact their structural integrity and compare these structures to those of a beaver.

- Web of life: Students are assigned an organism to represent and they work to connect to others in the class to create a web of life.

- Scientific Method: Naturalist leads a discussion with students regarding ideas about the changing environment and the influence of climate variables. Naturalists will also share information about study design using the Southwest Calgary Ring Road Impact Study and Calgary Connect as examples.

Post Program In Class Activities

After the program students will have tools to develop their own studies.

Examples of Ecosystem Studies

- Pond Study: Students may wonder how the biodiversity between wetlands varies, conducting a study to complete a pond study at two locations, identifying and counting species abundance and presence or check the biodiversity of a wetland in different seasons.

- Vegetation Survey: Students may wonder how the presence and distance to water impacts plants, or wonder which ecosystems are more diverse. Students may choose to explore different aspects (north facing/south facing) and compare vegetation diversity based on the direction of the sun.

- Beaver Trees: Students might hypothesize on the abundance and location of trees fallen by beavers. They can conduct a study by recording and marking on a map the location of beaver trees and evidence found.

- Bird/bug Diversity Study: Students may choose to explore the differences between birds or bugs in different ecosystems.

Weaselhead History

The Weaselhead area has a name shrouded in mystery. Like so many Indigenous stories, how the Weaselhead got its name has been lost over time. What we do know is that although there are weasels that call this area home, the name has nothing to do with actual weasels! Weaselhead is a traditional Blackfoot last name so the name may be related to someone from the Blackfoot Confederacy. There is written history of a man with the name Weazel Head on the Tsuut'ina reserve as well, but little is known about where he originated. Early settler Sam Livingston, whose house is now part of Calgary's Heritage Park, was the first European to settle in the Elbow River valley, now known as the Weaselhead.

Between 1910 and 1990, Tsuut'ina reserve and parts of the Weaselhead were used for military training exercises. Foxholes and signs warning of ordinances possibly left behind remind of this history even today. The last time an exploded device was found was during the floods of 2013.

The City of Calgary bought what is now the Weaselhead from the Tsuut'ina Nation in 1929 to build the Glenmore Reservoir, which still provides roughly 40% of Calgary's drinking water.

Today, this protected area spans 404 hectares (989 acres) and is bursting with diverse habitats. Wander through dense White Spruce forests, leafy Balsam Poplar groves, and colourful wildflower meadows. The Elbow River winds through it all, with floodplains, beaver ponds, and wetlands teeming with life.

As you explore, you'll uncover clues to the area's rich history. Fossils in sandstone cliffs date back 35 million years, and traces of ancient river paths still shape the landscape. You can find evidence of Indigenous campsites and buffalo hunts, as well as remnants of a military training base that once operated here.

With over 480 plant species, including rare ones like the Western Wood Lily, the Weaselhead is a wildlife haven. Frogs, salamanders, and more than 200 bird species thrive here, while larger animals like moose, bears, and even cougars visit throughout the year.

The Weaselhead is a living tapestry of Calgary's natural and cultural history, offering a rich, engaging experience for all who visit.

REMEMBER: This is a natural area park. It is illegal to remove anything from the area. Fossils and certain plant species are protected in Alberta.