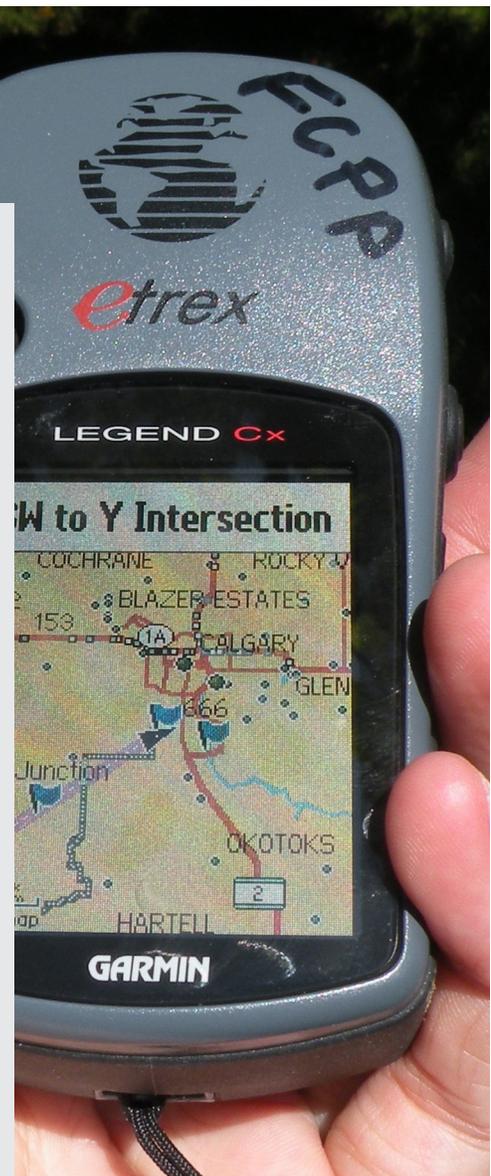


GPS Excursion in Fish Creek Provincial Park

A Field Study for Grade 7 - 9 Students



FISH CREEK
ENVIRONMENTAL LEARNING CENTRE

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CONNECTING PEOPLE WITH PARKS

FISH CREEK
ENVIRONMENTAL
LEARNING CENTRE


Alberta Parks

Introduction

A GPS Excursion is a half-day field activity designed to cover a portion of the requirements for the Junior High Environmental and Outdoor Education course.

Fish Creek Provincial Park is one of Canada’s largest urban provincial parks, stretching from the western edge of the city to the Bow River. The park has a strong vision within its visitor services program plan to support and foster environmental and cultural education.

Alberta Parks acknowledges that Fish Creek Provincial Park is part of the traditional territory of Treaty 7 region in Southern Alberta, which includes the Blackfoot Confederacy (comprising Siksika, Piikani and Kainai First Nations), the Tsuut’ina First Nation, and the Stoney Nakoda First Nation. The City of Calgary is also home to Metis Nation of Alberta, Region III.

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Before the Visit

PREPARATION

What to bring and what to leave behind: A few suggestions.

It is most important that you, your students and your volunteers/chaperons know and understand that your field study will be an “OUTDOOR” experience. You will have a classroom as a home base over the course of the day, but most of your time will be outdoors. With this in mind, it is important that everyone attending the field study is prepared. Weather conditions can change quickly, you will be moving throughout the park on foot over a variety of trails.

What to Bring

- Extra clothing (rain gear, warm layers)
- Boots, insulated and waterproof if the weather calls for it
- Food and water (there are no microwaves, coffee shops, vending machines, etc. on-site or close by)
- Cellphones (to take photos or for timing activities, but otherwise off)
- Camera, binoculars (optional)
- Pencils and clipboards

CLASS DISCUSSION ABOUT THE FIELD TRIP

Here are a few things to discuss at school prior to the field study day:

- Discuss the fact that Fish Creek Provincial Park is not a City of Calgary Park.
- Discuss the purpose of provincial parks. Have the class make a list of behaviours on the field study that would show respect for living things and a commitment to their care.
- Discuss the park Key Messages (next page) and your expectations of the group.
- Discuss outdoor safety. Students need to:
 - Stay with their group at all times, do not wonder off alone
 - Do not climb trees, fences or railings
 - Do not walk into the creek or onto the ice in winter; be cautious around steep creek banks as they may give way.
- Discuss behavioural expectations. Explain that the field study will be another school day, just at a different place. All the school rules apply.
- Discuss the appropriate clothing required for the season and the day’s activities. Mornings in the shady forest will be cool. Trails may be muddy and wet. Several layers of clothing, including a water resistant layer and a hat or hood will provide the most comfort. Boots provide more protection than runners and sandals. Warm weather means hats, sunscreen and insect repellent will also be required.

FISH CREEK PROVINCIAL PARK: Key Messages

Please review and be sure everyone understands the following information before your visit the park.

- Our vision: Alberta's parks inspire people to discover, value, protect, and enjoy the natural world and the benefits it provides for current and future generations.
- Alberta Parks acknowledges that Fish Creek Provincial Park is part of the traditional territory of Treaty 7 region in Southern Alberta, which includes the Blackfoot Confederacy (comprising Siksika, Piikani and Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda First Nation. The City of Calgary is also home to Metis Nation of Alberta, Region III.
- Alberta's parks and protected areas belong to all Albertans and contain many different natural landscapes that are home to numerous plant and animal species as well as significant cultural and historic resources. The province's network of parks and protected areas helps to ensure that Alberta's natural and cultural heritage is preserved for future generations.
- There are a wide variety of visitors and users of our parks. Everyone must respect and share the park and its facilities and resources.
- Stay on designated trails while moving through the park and participating in group activities. Staying on designated trails reduces impact to the natural habitats of the park. Please share the trail with other users.
- Feeding wildlife is prohibited. The park's ecosystems provide all the food and habitat wildlife require for their basic needs. Feeding wildlife can cause wildlife to associate humans with food. Quietly observe wildlife from a safe and comfortable distance so as not to disturb them or put them or you at risk.
- Everything in the park – living and non-living is protected. Students are welcome to share their discoveries, but must remember to leave everything as they found it. Do not remove anything natural from the park.
- Litter must be placed in garbage cans or packed out.
- Use only designated fire pits. The collecting and burning of park vegetation is not permitted. You must ensure fires are fully extinguished before leaving them.



Your Day In The Field

SCHEDULE

The following outdoor field trip activities are intended to connect learning in an experiential way to the natural world.

Program Start and End

The field study is covered in approximately 2 - 2 1/2 hours. You can add your own activities to extend this period if desired.

Upon arrival Park staff will meet your group at the Learning Centre (see map in appendix) and lead you to your classroom .

What to Expect

Upon arrival your class will receive a brief introduction to the park, a review of park rules, instruction on orienting and reading a map and how to use the handheld GPS units. Time lines for the activity will be discussed along with groups and starting positions.

Students will have an opportunity to have a washroom and snack break if desired and then head outside.

The major portion of the field study will see students working in small groups to locate and record waypoints/control markers, make observations and answer questions in the student journal.

Field Trip at a Glance

Park and Field Activity Introduction – Classroom (30 - 40 minutes)	<ul style="list-style-type: none">• Introduction to Fish Creek and the provincial park system, park rules and behavioural expectations for the day.• Review orienting the map and use of GPS units to locate and record Waypoints/Control Markers• Review answering questions in Student Journal• Review working groups and timing of activity
Washroom/Snack Break (5 - 10 minutes)	
Navigating the Course and Answering Questions (60+ minutes)	<ul style="list-style-type: none">• Student groups navigate and locate waypoints/control markers and answer questions in journals
Wrap - Up	Students return to facility, gather belongings, depart.

Student Groups

Please ensure that each student has a copy of the “Student Journal” (Pages 9 - 20) and that you have students separated into working groups.

It is recommended that you have **6 - 10 groups** of students and that students are capable of cooperating and working together.

FIELD TRIP ACTIVITY SUMMARY

The following field trip activity summaries outline instructions for the trip activities.



1 Orienting the Map

The students need to know how to orient a map before attempting to navigate the activity area with a GPS. Failure to correctly orient the map is the frequent reason why people experience difficulty following maps.

Orienting a map simply means the map is turned so that north on the map is pointing to the compass direction north.

OR

That the map is turned so that what is seen on the map matches actual landmarks seen in relation to the map reader's location and those landmarks.

Even when the map reader is unsure which direction is north from their location, orienting the map can be accomplished by following these steps:

1. Read the legend.
2. Locate where you are presently.
3. Find a landmark (parking lot, hill, bridge, creek) close to your location.
4. Holding the map so the words remain right side up, turn yourself around until what is shown on the map matches actual locations.

OR

5. Turn the map until what is shown on the map matches the actual landmarks seen around you.

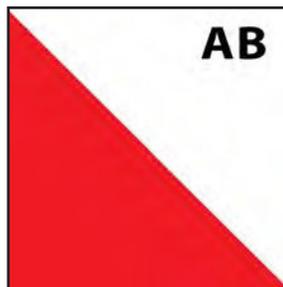


2 GPS Units, Waypoints and Control Markers

Students will receive instruction on use of the GPS units during the classroom orientation. A one page guide is also included in the Student Journal.

A waypoint is a reference point or set of coordinates that precisely identify a location. Each waypoint includes latitude and longitude data for that location. Using the pre-programmed waypoints in each GPS unit, students navigate to 12 locations in and around Shannon Terrace.

At each location they will also find a red and white control marker (see image below), which confirms they have reached the correct waypoint. These markers are approximately 10 cm square and positioned permanently on posts, fences, bridges, or signposts. They may be on any side and at any height so remind students to look all around.



3

Recording Waypoints and Control Marker Codes

Students are to record the two letter code from the control marker in the space provided on the appropriate page in the Student Journal for each station.

Students will also record the longitude and latitude coordinates of each location in the Student Journal. These coordinates can be found by moving the toggle up or down once while looking at the map screen on the GPS unit. Note that the coordinates students record may not be exactly the same as those listed in the answer key. Coordinates may differ slightly due limited accuracy of the handheld units. Written waypoints should look like this:

N 50°55.660

W 114°07.923

4

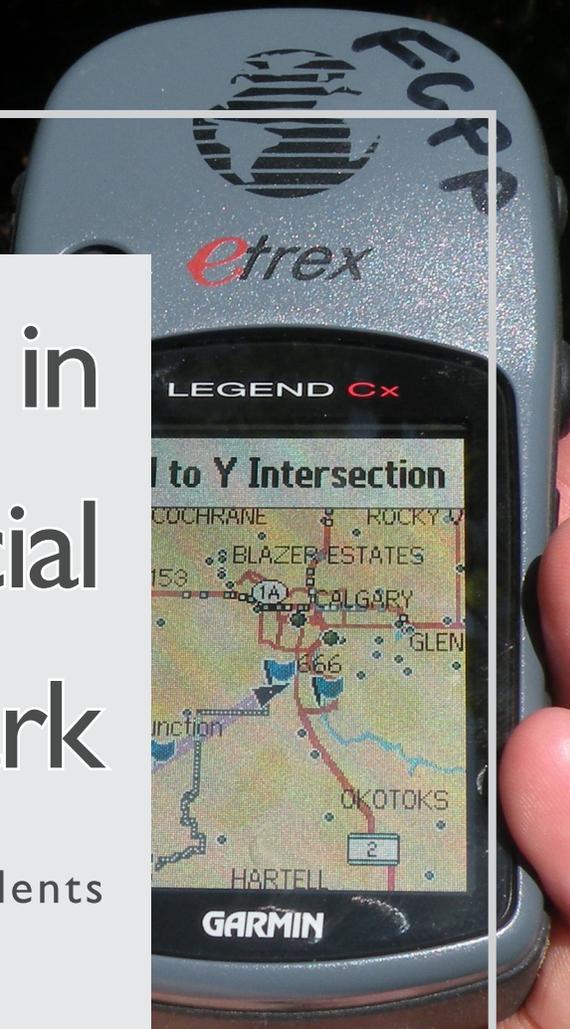
Student Journals and Recording Observations

At each location students will observe the area around them. There are questions in the Student Journal they are asked to answer based on their observations.

An answer copy is included in the appendix.

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STUDENT JOURNAL

www.Fish-Creek.org



Name: _____

Date: _____

Group Members: _____

Stop#1 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Fish Creek wasn't always a provincial park. In fact, much of the land was privately owned and used as ranch land. When it became a park in 1975, a number of changes had to be made in order to accommodate large numbers of visitors. Look around you and list 4 things that have been added by humans to facilitate the land's transition to a park.

1.

2.

3.

4.

Do any of these changes have a negative effect on your experience here? If so, which ones and why?

Stop# 2 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Suppose you didn't have a GPS to help you find this marker. How would you describe this location to the next group to help them locate it? Be sure to describe your environment in detail, including types of vegetation, human-made structures, and any distinguishing landmarks.

Stop# 3 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Technologies like GPS can help biologists track and record where wildlife is found and how animals like cougars travel. Look to the west and observe the 37th street traffic bridge, which is higher and wider than most other bridges. How might this design help keep wildlife safe when travelling from one habitat to another?

How can GPS be used to determine if the features of this new design are effective or not? How can we tell if animals are using the corridor?

Stop# 4 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Within this Spruce forest ecosystem, everything is interacting. Look at the large Spruce tree behind the sign post. A woodpecker has chipped away the bark in order to get at insects for food. In what ways might other animals or insects interact with this tree?

Is there any sign that humans have also had interactions with some of the trees around you? What evidence is there?

How will these human effects have an impact on the way animals and insects interact with those same trees in the future?

Stop# 5 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

When using a GPS to navigate through a forest or locate a geocache, it is important to stay on trails when possible so as not to disturb sensitive ecosystems. Look around at the area behind the post and rail fence and list a few activities that may have caused degradation of the forest.

How have these activities contributed to the aesthetics of this area (how it looks)?

What are some ways the park can work to prevent this sort of damage from occurring in the future?

Is there anything that can be done for this area now? Could GPS technology have a role to play?

Stop# 6 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

The water that flows in front of you is Fish Creek. Its headwaters start in the Rocky Mountains and flow through agricultural lands, protected areas, and towns before reaching Calgary. List 5 ways in which this water may have been used by people before flowing into the Park and specify whether each use affects the creek directly (changing water levels) or indirectly (pesticides leeching into water through groundwater).

Water Use	Direct/Indirect and Why

Choose one of these activities and explain how you might make a difference in your daily routine to ensure that water flowing out of Calgary remains safe for those who use it downstream?

Stop# 7 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Walk down the hill towards waypoint #8 and stop at the clearing on your right. You are surrounded by two different habitats, grassland and aspen parkland.

What features define each habitat?

(Hint: look at plant species, abiotic conditions, etc.)

Grassland	Aspen Parkland

Which one do you think has more diversity of life and why?

Why do you think diversity is important?

Stop# 8 CONTROL MARKER CODE:WAYPOINT COORDINATES: N
W

Look around at the fallen trees. These trees might have been knocked down in a windstorm or may have simply died of old age, rotting away from the inside out. Anything that dies in an ecosystem will eventually be recycled. How will these trees get recycled in the forest?

One of the Park's regulations is no littering. If this hill was covered with human-generated wastes (garbage), would the ecosystem be able to recycle it as well? Why or why not?

How can you reduce your waste footprint when geocaching or using GPS units in the forest?

Stop# 9 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Environments are constantly changing due to shifting seasons, geological transformations, extreme weather, succession or human influences. Examine the creek bank and surrounding area to identify what sorts of changes have occurred in the following areas:

****DO NOT** go too close to the edge of the bank as it is unstable and may collapse into the creek.

Creek Bed	
Surrounding Forest	
Creek Banks	
Around Bench	

Stop# 10 CONTROL MARKER CODE:WAYPOINT COORDINATES: N
W

Have a look at the creek in front of the marker post. Be careful not to get too close to the edge. The bank where you are located is a relatively steep drop to the water while the shoreline on the opposite side is flat and covered with a great deal of gravel, rock and vegetation. Why the differences from one side of the creek to the other?

Stop# 11 CONTROL MARKER CODE:WAYPOINT COORDINATES: N
W

It is always important to be aware of your surroundings when navigating on trails. While you have been out on the trails today you may have come across hazards – things that can threaten your safety. Thinking back to some of the trails you have been on, what might some of those hazards be?

This trail winds and curves quite a bit. Does that cause any potential safety hazards, whether you are on foot, riding a bicycle or walking a dog?

Stop# 12 CONTROL MARKER CODE:

WAYPOINT COORDINATES: N
W

Fish Creek is truly an “urban” park, surrounded by city and city related infrastructure. It was not that long ago that this area was part of a ranch, home to cattle and horses. The evidence of that prior existence is fading away on the landscape. More recent developments inside and outside the park have replaced it.

Observe the area around you. There are a variety of developed elements you can see inside and outside the park. What are they? What is their purpose?

Inside the park:

Outside the park:

Using the Keypad



Power/Backlight key—press and hold to turn the unit on or off. Press and release to adjust the backlighting, view the date or time, and view the battery capacity.



In/Out Zoom keys—from the Map Page, press to zoom in or out. From any other page, press to scroll up or down a list.



Menu/Find key—press and release to view options for a page. Press twice to view the Main Menu. Press and hold to display the Find Menu.



Quit key—press to cycle through the main pages. Press and release to cancel data entry or exit a page.



Enter/Rocker key—press and release to enter highlighted options and data or confirm on-screen messages. Press and hold to mark your current location as a waypoint. Move up, down, right, or left to move through lists; highlight fields, on-screen buttons, or icons; enter data; or to move the map panning arrow.

Press down to Enter. Move to the side or up or down to scroll. Move the cursor or increase or decrease values.

Finding Map Items

To find an item from your current location:

1. Press and hold the Menu key to open the Find Menu.
2. Highlight a category icon (Waypoints, Cities, Exits, for example), and press Enter.
3. Use the Rocker to highlight an item, and press Enter to open the information page for the selected item.



OTE: For the Find Menu to display all of the categories shown above, MapSource detailed map data must be downloaded to the microSD™ or TransFlash™ card. (Refer to the owner's manual for detailed information.)

To find an item from another location using the Find Menu:

1. Press the Find key to open the Find Menu.
2. Highlight a category icon (Waypoints, Cities, Exits, for example), and press Enter.
3. Press the Menu key to open the Options Menu.
4. Highlight Change Reference, and press Enter.
5. Use the Rocker to select a reference point on the map, and press Enter. The list changes to show items nearest to the new map location.

Going to a Destination

To Go To a highlighted map item:

1. Use the Rocker to highlight the item you want to navigate to on the Map Page.
2. Press and quickly release Enter to capture the pointer location (N) and open the information page.
3. Highlight Go To, and press Enter to begin navigation.
4. Follow the magenta route created on the Map Page. You can also use the Compass Page to help you navigate to the point.

To initiate a Go To from the Find Menu:

1. Press the Find key to open the Find Menu.
2. Highlight the Waypoint icon, and press Enter to open the Waypoints Page.
3. Use the Rocker to select a waypoint, and press Enter. The Waypoint Page opens.
4. Highlight Go To, and press Enter to begin navigation.

To go to a recently found item:

1. Press the Find key to open the Find Menu.
2. Highlight the Recent Finds icon, and press Enter to open the Recent Finds Page.
3. Use the Rocker to select an item to go to, and press Enter to open the information page for the item.
4. Highlight Go To, and press Enter to begin navigation.





Appendix

- 1. Student Journal Activity Answer Key
- 2. Orienteering Map, Map code Blank and Map Code Answer
- 3. Environmental Learning Centre Access map

Stop#1 CONTROL MARKER CODE: AD

WAYPOINT COORDINATES: N 50° 55.845'
W 114° 07.976'

Fish Creek wasn't always a provincial park. In fact, much of the land was privately owned and used as ranch land. When it became a park in 1975, a number of changes had to be made in order to accommodate large numbers of visitors. Look around you and list 4 things that have been added by humans to facilitate the land's transition to a park.

- 1. Roads for access into park.*
- 2. Power lines for electricity to buildings in park.*
- 3. Parking lots.*
- 4. Gates to designate areas as "staff only" or to close the park at night.*

Do any of these changes have a negative effect on your experience here? If so, which ones and why?

Roads, power lines, gates and parking lot make the Park look less natural and wild and break up the forest and the view. Roads bring in noise from traffic.

Stop# 2 CONTROL MARKER CODE: GH

WAYPOINT COORDINATES: N 50° 55.842'
W 114° 08.061'

Suppose you didn't have a GPS to help you find this marker. How would you describe this location to the next group to help them locate it? Be sure to describe your environment in detail, including types of vegetation, human-made structures, and any distinguishing landmarks.

- *Approximately 50 metres up the paved trail from pedestrian crosswalk.*
- *Small square post in ground on right side of trail.*
- *Located on elevated land.*
- *Large patch of Canada thistle plants on left side of trail.*
- *Mainly deciduous (poplar) trees.*
- *Large poplar on left of trail that is missing a piece of its trunk.*
- *Can see trail junction behind you.*

Stop# 3 CONTROL MARKER CODE: RY

WAYPOINT COORDINATES: N 50° 55.777'
W 114° 08.248'

Technologies like GPS can help biologists track and record where wildlife is found and how animals like cougars travel. Look to the west and observe the 37th street traffic bridge, which is higher and wider than most other bridges. How might this design help keep wildlife safe when travelling from one habitat to another?

Wildlife will feel more comfortable crossing under a taller, wider bridge. It creates a safer corridor so animals don't have to cross over the bridge, possibly getting struck by vehicles. There may be less noise from vehicles to scare away wildlife.

How can GPS be used to determine if the features of this new design are effective or not? How can we tell if animals are using the corridor?

GPS collars can be placed on larger mammals like cougars, bobcats or coyotes to track movement patterns and determine if they are moving under the bridge.

Stop# 4 CONTROL MARKER CODE: QR

WAYPOINT COORDINATES: N 50° 55.722'
W 114° 08.177'

Within this Spruce forest ecosystem, everything is interacting. Look at the large Spruce tree behind the sign post. A woodpecker has chipped away the bark in order to get at insects for food. In what ways might other animals or insects interact with this tree?

- *woodpeckers may nest inside the trunk.*
- *insects may live under the bark and feed there.*
- *squirrels may nest in the branches.*
- *other birds may nest in the branches.*
- *mammals may rub against the tree, using it as a “rub” tree.*
- *some animals or birds may eat the spruce needles.*

Is there any sign that humans have also had interactions with some of the trees around you? What evidence is there?

Some trees have been cut down with chain saws to clear trails of deadfall.

How will these human effects have an impact on the way animals and insects interact with those same trees in the future?

- *Animals may not be able to nest in a fallen tree.*
- *Once the tree dies it may not produce food anymore.*
- *A fallen tree may provide a home for insects or animals that wouldn't live in a standing tree.*
- *Fallen trees will decompose and add nutrients to the soil.*

Stop# 5 CONTROL MARKER CODE: CA

WAYPOINT COORDINATES: N 50° 55.649'
W 114° 08.043'

When using a GPS to navigate through a forest or locate a geocache, it is important to stay on trails when possible so as not to disturb sensitive ecosystems. Look around at the area behind the post and rail fence and list a few activities that may have caused degradation of the forest.

Mountain biking and hiking off the designated trail has caused compaction of the soil, erosion and loss of plant life in the forest.

How have these activities contributed to the aesthetics of this area (how it looks)?

There is no underbrush or low-lying vegetation anymore. Dirt paths criss-cross through the trees so it no longer looks natural. The area looks completely barren and unsightly.

What are some ways the park can work to prevent this sort of damage from occurring in the future?

- *Using signs to close the area to the public.*
- *Building a fence to keep the public out of sensitive areas.*
- *Educating visitors on the importance of staying on designated trails.*
- *Limiting certain activities in areas that can not sustain heavy usage.*

Is there anything that can be done for this area now? Could GPS technology have a role to play?

GPS can be used to map and categorize this area as sensitive and in need of restoration. Once identified, anyone carrying out the restoration of the area (planting shrubs or trees) can use the GPS coordinates to locate it.

Stop# 6 CONTROL MARKER CODE: XL

WAYPOINT COORDINATES: N 50° 55.661'
W 114° 07.580'

The water that flows in front of you is Fish Creek. Its headwaters start in the Rocky Mountains and flow through agricultural lands, protected areas, and towns before reaching Calgary. List 5 ways in which this water may have been used by people before flowing into the Park and specify whether each use affects the creek directly (changing water levels) or indirectly (pesticides leeching into water through groundwater).

Water Use	Direct/Indirect and Why
<i>Irrigation for crops</i>	<i>Both - can lower water levels and leach chemicals.</i>
<i>Residential use (laundry, dishes, drinking)</i>	<i>Indirect – chemicals that go down the drain can end up back in the water table.</i>
<i>Livestock watering</i>	<i>Direct – livestock can pollute water with manure and erode the banks.</i>
<i>Tourism – e.g. Rafting, canoeing</i>	<i>Indirect – may effect nesting birds along river banks.</i>
<i>Recreational – e.g. fishing</i>	<i>Direct – over fishing could reduce numbers of important fish species.</i>

Choose one of these activities and explain how you might make a difference in your daily routine to ensure that water flowing out of Calgary remains safe for those who use it downstream?

- *Irrigation: The more water used upstream can cause shortages downstream of Calgary.*
- *Residential Use: Chemicals used by others can contaminate drinking water downstream.*
- *Livestock: People could possibly get sick from drinking contaminated water.*
- *Tourism: Less river-nesting birds for people to bird watch further along.*
- *Recreational: May have bans on catching certain fish species.*

Stop# 7 CONTROL MARKER CODE: BA

WAYPOINT COORDINATES: N 50° 55.624'
W 114° 07.583'

Walk down the hill towards waypoint #8 and stop at the clearing on your right. You are surrounded by two different habitats, grassland and aspen parkland. What features define each habitat? (Hint: look at plant species, abiotic conditions, etc.)

Grassland	Aspen Parkland
<p>No trees Only grass growing, not much variety in plants Exposed to sun and heat Less places for animals to live</p>	<p>Mostly aspen trees Many varieties of plants, shrubs, grasses Well shaded and cool More diverse habitat for animals</p>

Which one do you think has more diversity of life and why?

Aspen Parkland – different habitat, more tolerable climate, more plants growing.

Why do you think diversity is important?

Diversity within an ecosystem means more variation in habitat so more species can exist, more food resources, and a better chance of survival. For example, if only one plant species grew here and an insect ate only that plant, the entire ecosystem would be destroyed by that insect.

Stop# 8 CONTROL MARKER CODE: KJ

WAYPOINT COORDINATES: N 50° 55.602'
W 114° 07.501'

Look around at the fallen trees. These trees might have been knocked down in a windstorm or may have simply died of old age, rotting away from the inside out. Anything that dies in an ecosystem will eventually be recycled. How will these trees get recycled in the forest?

A newly fallen tree may become a home for many insects or animals. Over time, the tree is broken down and decomposed. In moist conditions, this process typically works faster than in dry conditions. Once bacteria, fungus and insects have broken down the decaying tree into small enough pieces, it becomes humus on the forest floor. Humus eventually turns into nutrient rich top soil. That new soil then feeds young plants in the surrounding area as they grow.

Trees may also become fuel in a forest fire, which can restore the habitat and food sources for wildlife.

One of the Park's regulations is no littering. If this hill was covered with human-generated wastes (garbage), would the ecosystem be able to recycle it as well? Why or why not?

No, because human waste is often made from unnatural materials (plastics, styrofoam) that cannot be broken down by natural processes. Human garbage may never decay and can become harmful to wildlife and the environment, continuing to build up overtime.

How can you reduce your waste footprint when geocaching or using GPS units in the forest?

- *Use digital caches that can be accessed on the internet.*
- *Do not leave waste behind when out on the trails.*
- *Picking up garbage you find on the trails.*

Stop# 9 CONTROL MARKER CODE: XY

WAYPOINT COORDINATES: N 50° 55.613'
W 114° 07.413'

Environments are constantly changing due to shifting seasons, geological transformations, extreme weather, succession or human influences. Examine the creek bank and surrounding area to identify what sorts of changes have occurred in the following areas:

****DO NOT** go too close to the edge of the bank as it is unstable and may collapse into the creek.

Creek Bed	<i>Erosion, debris from floods left behind, flow path of creek has changed, rocks may have been carried downstream and built up in low-flow areas.</i>
Surrounding Forest	<i>Trees have fallen due to old age and/or severe weather like wind; trees have leaves in summer season.</i>
Creek Banks	<i>Highly eroded due to flooding and high foot traffic/bike trails.</i>
Around Bench	<i>Plants have stopped growing due to heavy human use, gravel from trail has dispersed to sides because of people walking on it over time, trees may have been cut down to accommodate building of bench.</i>

Stop# 10 CONTROL MARKER CODE: DF

WAYPOINT COORDINATES: N 50° 55.765'
W 114° 07.405'

Have a look at the creek in front of the marker post. Be careful not to get too close to the edge. The bank where you are located is a relatively steep drop to the water while the shoreline on the opposite side is flat and covered with a great deal of gravel, rock and vegetation. Why the differences from one side of the creek to the other?

- *As water flows in creeks and river in meanders, twisting and turning across the land. As it flows water on the outside of the curves flows faster and erodes or cuts into the banks more carrying away materials. This can create steep cut banks along the shoreline.*
- *The inside of the curves sees the water flowing at a slower rate and because of this, materials are dropped or deposited creating point bars.*
- *The large trees laying on the point bar here are from flooding in past years that saw a great deal of debris getting washed downstream during high water events.*

Stop# 11 CONTROL MARKER CODE: RA

WAYPOINT COORDINATES: N 50° 55.718'
W 114° 07.538'

It is always important to be aware of your surroundings when navigating on trails. While you have been out on the trails today you may have come across hazards – things that can threaten your safety. Thinking back to some of the trails you have been on, what might some of those hazards be?

Tree roots, fallen trees, weather, other trail users, dogs, muddy trails, tree branches, thistles, stinging nettle, stinging insects, getting lost, injury.

This trail winds and curves quite a bit. Does that cause any potential safety hazards, whether you are on foot, riding a bicycle or walking a dog?

People coming around a corner on a bike or roller blades too quickly could cause an accident.

Stop# 12 CONTROL MARKER CODE: RI

WAYPOINT COORDINATES: N 50° 55.772'
W 114° 07.679'

Fish Creek is truly an “urban” park, surrounded by city and city related infrastructure. It was not that long ago that this area was part of a ranch, home to cattle and horses. The evidence of that prior existence is fading away on the landscape. More recent developments inside and outside the park have replaced it.

Observe the area around you. There are a variety of developed elements you can see inside and outside the park. What are they? What is their purpose?

Inside the park:

Wide granular pathway suitable for most users, single track or dirt pathways mainly for mountain biking, trail markers to inform users and for emergency location, fences to control access and for aesthetics, benches to sit and relax.

Outside the park:

Houses and yards, streets/roads for transportation, utility poles and lines for power, cable, telephone.

SHANNON TERRACE

SCALE 1:5000



Contour Interval 5m

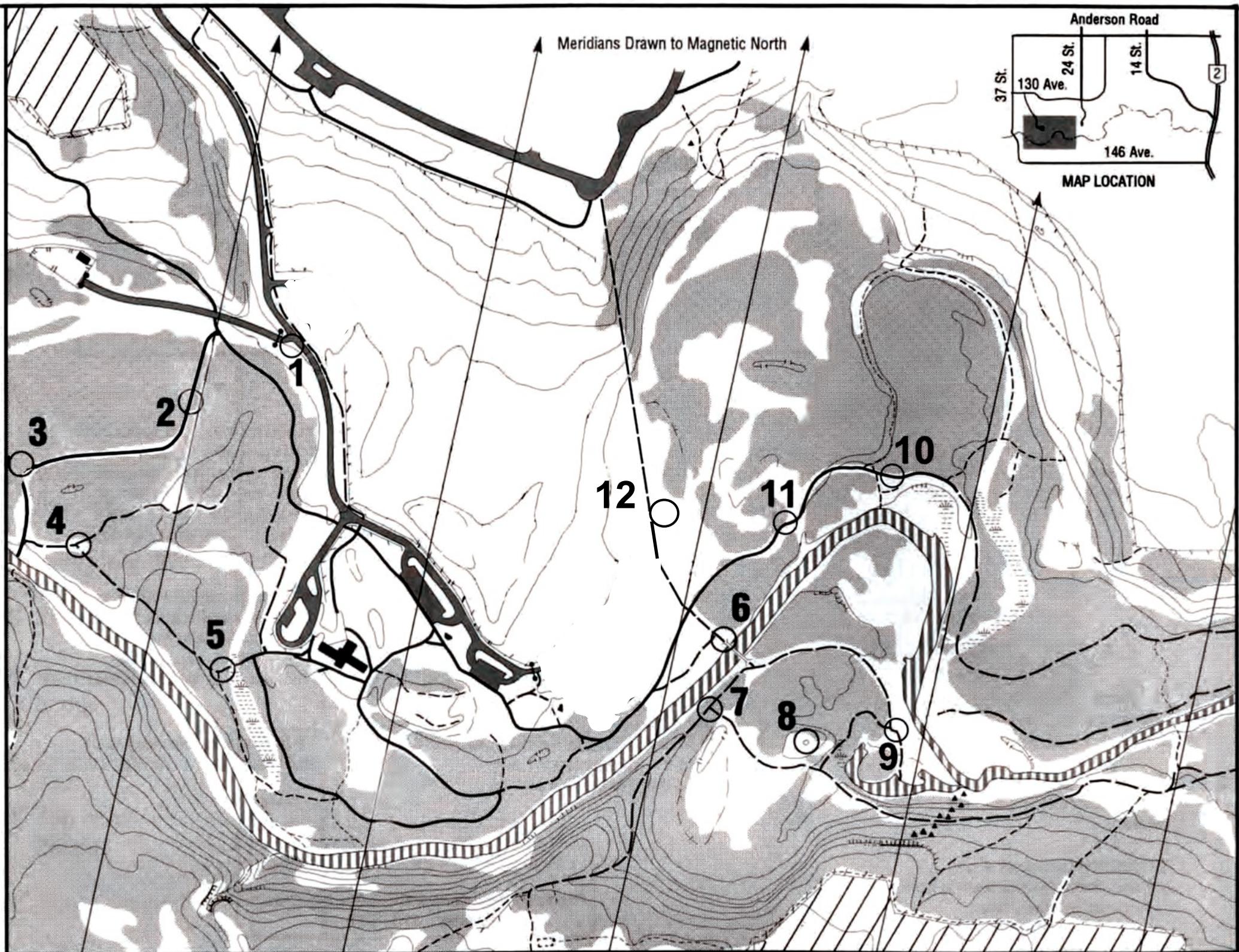
LEGEND

- Road
- Paved Lot
- Paved Path
- Shale Path
- Dirt Path
- Small Path

- Fence: crossable
- uncrossable
- in ruin

- Building
- Ruin
- Bridge
- Gate

- Contour Line
- Form Line
- Hill
- Depression
- Steep Bank
- Cliff
- Boulder
- Fish Creek
- Seasonal Stream
- Marsh
- Forest
- Open Land
- Out of Bounds



FISH CREEK PROVINCIAL PARK

Provincial parks exist to protect significant natural, historical and cultural features and to provide recreational opportunities to enjoy these features.

Alberta's parks are protected by the Alberta Parks Act to help keep them healthy and vibrant.

Do not feed or disturb wildlife. Feeding wildlife, including birds, is not necessary and is potentially dangerous. Quietly observe all wildlife from a comfortable distance.

Leave only footprints. Everything in the Park – living and non-living – is protected to help preserve the complex living system that thrives in Fish Creek Provincial Park. Leave everything as it is found.

Pets on a leash. There are no off-leash areas in any of Alberta's provincial parks. This protects Park wildlife as well as domestic pets.

Pitch in. Litter should be placed in the rubbish bins provided or in a pocket. Human litter is hazardous to Park plants and wildlife.

Fire in its place. Use only designated fire pits. Open fires are a threat to public safety and Park habitats. The burning of Park vegetation is not permitted.

Speed limit in the Park is 30 km/hour.

SAFETY TIPS

STAY ON THE OFFICIAL PARK TRAILS: those with a paved or shale surface. All the control markers are visible from these trails.

Send Orienteering participants onto the course in groups no smaller than 3 people. If there is an accident, this leaves someone with the injured person while the third person goes for help.

Watch carefully for hazards such as uneven ground, holes, tree roots and stumps. Around the creek, watch for eroded banks and thin ice.

Avoid touching stinging nettle. This plant can cause a skin irritation that may last several hours.



CONTROL CARD

1. Junction of roads.

2. Edge of clearing.

3. Top of Curve,
25m off pavement
Storm Water Warning

4. Trail junction.

5. End of culvert.

6. End of bridge.

7. Trail junction.

8. Top of hill.

9. Near trail junction.

10. Between paved and single
track (dirt) trails.

11. Cycle Sign

12. "Use at own risk"

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CONTROL CARD

1. Junction of roads.

AD

2. Edge of clearing.

GH

3. Top of Curve,
25m off pavement
Storm Water Warning

RY

4. Trail junction.

QR

5. End of culvert.

CA

6. End of bridge.

XL

7. Trail junction.

BA

8. Top of hill.

KJ

9. Near trail junction.

XY

10. Between paved and single
track (dirt) trails.

DF

11. Cycle Sign

RA

12. "Use at own risk"

RI

Access Map - Fish Creek Environmental Learning Centre

13931 Woodpath Road SW, Calgary, Alberta



DIRECTIONS

From Anderson Rd SW heading west:

- Follow signs to Tsuufina Trail and follow exit onto Buffalo Run Blvd
- Follow Buffalo Run Blvd past the gas bar and Costco complex to 130 Ave SW
- Heading east through two traffic circles to continue onto 130 Ave SW
- Turn right onto Woodpath Rd SW and follow road straight into the park

From south of 130 Ave SW on northbound Tsuufina Trail:

- Take the 130 Ave SW exit and keep right at top of ramp onto eastbound 130 Ave SW
- Turn right on Woodpath Rd SW and follow road straight into the park

