



# ORIENTEERING & Exploring Human Impacts

A Field Study for Grade 7 - 9 Students

FISH CREEK  
ENVIRONMENTAL LEARNING CENTRE

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[www.Fish-Creek.org](http://www.Fish-Creek.org)

CONNECTING PEOPLE WITH PARKS  
  
FISH CREEK  
ENVIRONMENTAL  
LEARNING CENTRE

  
Alberta Parks

# Introduction

Orienteering 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.*

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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, (if booked with the Park) 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

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- 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

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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.

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- 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 hours. You can add your own activities to extend this period if desired.

If you have booked an educator and classroom space park staff will meet your group at the Learning Centre (see map in appendix).

Self-directed groups are asked to stay clear of the Learning Centre and use the public picnic area and parking lots.

### What to Expect

If you have booked an educator and classroom space your class will receive a brief introduction to the park, a review of park rules and instruction on orienting and reading the map.

The major portion of your field study will see students working in small groups to navigate and locate control markers, make observations on human impacts and answer questions in the student journal.

Please ensure that each student has a copy of the "Student Journal" (Pages 7 - 13) and that you have students separated into working groups.

### Field Trip at a Glance

<b>Park and Field Activity Introduction – Classroom (20 - 30 minutes)</b>	<ul style="list-style-type: none"><li>• Introduction to Fish Creek and the provincial park system, park rules and behavioural expectations for the day.</li><li>• Review orienting the map and locating control markers</li><li>• Review answering Human Impact questions</li><li>• Review working groups and timing of activity</li></ul>
<b>Washroom/Snack Break (5 - 10 minutes)</b>	
<b>Navigating the Course and Answering Questions (60+ minutes)</b>	<ul style="list-style-type: none"><li>• Student groups navigate and locate control markers and answer questions in journals</li></ul>
<b>Wrap - Up</b>	Students return to facility, gather belongings, depart.

### Self-Directed Groups

Self-directed groups are asked to submit a Group Registration form online at - <https://www.albertaparks.ca/parks/kananaskis/fish-creek-pp/education/teacher-guided-field-studies/>.

Utilize the public picnic area and parking as your home base. Washroom facilities are available adjacent to parking and picnic areas.

Self-directed groups have no access to the Environmental Learning Centre.

## 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 the orienteering course at the park. 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.

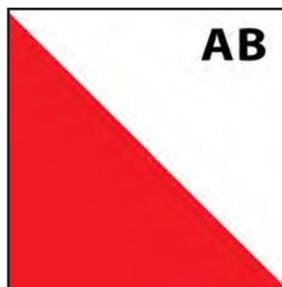
OR

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

### 2 Control Markers and Code Letters

Orienteering control markers are red and white metal plates approximately 10 cm square permanently attached in a vertical position to a post, fence, bridge or signpost. The control markers are NOT always attached at eye level on the front of these features. They may be on any side and at any height, so remember to look up, down and all around if the control marker is not immediately visible.

Students are to record the two letter code from the control marker in the space provided on the back of the map or in their student journal.



### 3 Human Impact Observation and Questions

Students are to observe the area around them at each control marker and answer the corresponding question(s) in the student journal related to the area of the marker.

Be sure students have copies of the map blank (appendix) and student journal (Pages 7 - 13).

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## STUDENT JOURNAL

[www.Fish-Creek.org](http://www.Fish-Creek.org)



Name: \_\_\_\_\_

Date: \_\_\_\_\_

Group Members: \_\_\_\_\_

\_\_\_\_\_

**Stop#1 - CONTROL MARKER CODE:**

The vision for Alberta’s provincial parks is:

“Alberta’s parks inspire people to discover, value, protect, and enjoy the natural world and the benefits it provides for current and future generations.”

What are a few examples of simple actions we can take while visiting our parks to ensure we achieve this vision?

**Stop #2 - CONTROL MARKER CODE:**

The trail you are on is paved. Please consider the positive and negative effects of paved trail surfaces compared to other trail surfaces such as gravel or mulch.

List and describe 3 benefits of paved trail surfaces:

1)

2)

3)

List and describe 3 negative impacts of paved trail surfaces:

1)

2)

3)

**Stop #3 - CONTROL MARKER CODE:**

The trail and land between control marker #2 and control marker #3 has been elevated as a berm far above the normal ground level. What purpose might this elevation serve? (Clue: what does the sign Marker #3 is attached to refer to?).

**Stop #4 - CONTROL MARKER CODE:**

Walk back to the bridge over Fish Creek. Look to the west and observe the 37th Street SW traffic bridge. Why might it be so elevated?

**Stop #5 - CONTROL MARKER CODE:**

Look around you. How many trails can you count in this area?

Which of these trails do you think were intentionally created by the Park?

What activities created the other trails?

What impact do these trails have on the surrounding environment?

What could Park visitors do to reduce this impact?

**Stop #6 - CONTROL MARKER CODE:**

Have a look at the creek banks on both sides of the bridge.

Are the banks covered in vegetation or are they sparsely covered with plants and beaten down by people?

What impact could this have on the creek bank and creek?

**Stop #7 - CONTROL MARKER CODE:**

Have you seen any evidence of dogs in the Park?

What are two potential negative impacts of dogs in the Park?

1)

2)

How could these impacts be limited or eliminated?

**Stop #8 - CONTROL MARKER CODE:**

Examine the grasses on the hillside. The most common one likely found grows quite tall, almost a metre (or more), has wide flat blades and loose tassel-like seed heads, this is Smooth Brome. Brome is an introduced species, but is the dominant grass in the Park.

Can you guess who might have introduced the brome into the Park and why?

What do you think the impact of the brome has been on the Park's habitats?

**Stop # 9 - CONTROL MARKER CODE:**

Examine the Park map, notice that Fish Creek is now completely engulfed by the city. Take note of the variety of access points, day use areas, and facility areas that exist in the Park. Are these "access" and "use" areas enough?

Too many?

If you managed this Park would you have more or less? Why?

**Stop #10 - CONTROL MARKER CODE:**

Have a look at the creek beside the marker post. Stay back from the edge of the bank. The bank where you are located is a steeply cut drop to the water while the shoreline on the opposite side is flat and covered with a great deal of gravel, rock and large trees.

Why the differences from one side of the creek to the other?

**Stop #11 - CONTROL MARKER CODE:**

The trails in Fish Creek Provincial Park are considered multi- use. This means that all trails are for all users regardless of whether they are pedestrians, cyclists, dog walkers, etc. The trail through this area is quite windy with curves and hills.

What potential hazards does this create?

How can these hazards be minimized or avoided?

**Stop #12 - CONTROL MARKER CODE:**

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 and what are their purposes?

Inside the park:

Outside the park:

# Appendix

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- 1. Control Marker and Human Impact Activity Answer Key
- 2. Orienteering Map, Map code Blank and Map Code Answer
- 3. Environmental Learning Centre Access map

# I. Control Marker and Human Impact Activity Answer Key

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## **Stop #1 - CONTROL MARKER CODE:AD**

The vision for Alberta's provincial parks is –

“Alberta's parks inspire people to discover, value, protect, and enjoy the natural world and the benefits it provides for current and future generations.”

What are a few examples of simple actions can we take while visiting our parks to ensure we achieve this vision?

- 1) Do not litter
- 2) Do not remove any materials from the park
- 3) Do not feed or disturb the wildlife
- 4) Keep dogs on a leash

## **Stop #2 - CONTROL MARKER CODE: GH**

The trail you are on is paved. Please consider the positive and negative effects of paved trail surfaces compared to other trail surfaces such as gravel or mulch.

List and describe 3 benefits of paved trail surfaces:

- 1) Long lasting
- 2) More resistant to damaging effects of weather and climate
- 3) A good multi-use surface that is accessible to pedestrians, cyclists, rollerblades, wheelchairs, baby strollers, etc.

List and describe 3 negative impacts of paved trail surfaces:

- 1) Expensive to install
- 2) Does not allow water to soak in
- 3) Not everyone likes to see pavement in a provincial park

**Stop #3 - CONTROL MARKER CODE: RY**

The trail and land between control marker #2 and control marker #3 has been elevated as a berm far above the normal ground level. What purpose might this elevation serve? (Clue: what does the sign Marker #3 is attached to refer to?).

The elevated berm acts as a barrier to keep storm water from flooding into the creek. The storm water is held in the low-lying wetland area being filtered by the plants and allowing sediments to settle out before flowing eventually into Fish Creek.

**Stop # 4 - CONTROL MARKER CODE: QR**

Walk back to the bridge over Fish Creek. Look to the west and observe the new 37th Street SW traffic bridge. Why might it be so elevated?

The elevated bridge acts to minimize the impact of the roadway on the valley bottom. The valley bottom is better suited to act as a wildlife corridor.

**Stop #5 - CONTROL MARKER CODE: CA**

Look around you. How many trails can you count in this area?  
There are at least four trails around stop #5.

Which of these trails do you think were intentionally created by the Park?  
One gravel trail (main large trail).

What forms of human activity have caused the other trails to develop?  
Walking off trail and mountain biking.

What impact have these trails had on the surrounding environment?  
Destruction of vegetation and compaction of soil.

What could Park visitors do to reduce this impact?  
Stay on the designated Park trail.

### **Stop #6 - CONTROL MARKER CODE: XL**

Have a look at the creek banks on both sides of the bridge. Are the banks covered in vegetation or are they sparsely covered with plants and beaten down by people? What impact could this have on the creek bank and creek?

People walking down the banks to the creek compacts the soil and that disturbs and eliminates vegetation. This leads to greater erosion of the bank that in turn adds more sediment and debris to the waters of Fish Creek, reducing overall water quality.

### **Stop #7 - CONTROL MARKER CODE: BA**

Have you see any evidence of dogs in the Park?

What are two potential negative impacts of dogs in the Park?

- 1) Chase and harass wildlife
- 2) Dog feces littering the Park

How could these impacts be limited or eliminated?

By people keeping their dogs leashed and under control at all times and picking up after their pets.

### **Stop #8 - CONTROL MARKER CODE: KJ**

Examine the grasses on the hillside. The most common one likely found grows quite tall, almost a metre (or more), has wide flat blades and loose tassel-like seed heads, this is Smooth Brome. Brome is an introduced species, but is the dominant grass in the Park.

Can you guess who might have introduced the brome into the Park and why?

Ranchers in the past introduced brome as a quick growing forage (food) crop for cattle and horses.

What do you think the impact of the brome has been on the Park's habitats?

Brome has taken over most grassland areas in the Park, eliminated many of our native species reducing the overall biodiversity and ecological health of the areas it dominates.

**Stop # 9 - CONTROL MARKER CODE: XY**

Examine the Park map, notice that Fish Creek is now completely engulfed by the city. Take note of the variety of access points, day use areas, and facility areas that exist in the Park.

Are these “access” and “use” areas enough?

Although we have ample entry points, many new access trails have been created in areas adjacent to the Park. This creates problems such as increased erosion, reduced natural area, increased invasion of weeds, etc.

Too many?

Many people think there are too many access and use areas in the Park and that it should be more natural. Others think there are not enough, trails, parking areas and facilities.

If you managed this Park would you have more or less? Why?

Think of the “Vision” of Alberta Parks from question #1 before answering this one.

**Stop #10 - CONTROL MARKER CODE: DF**

Have a look at the creek beside the marker post. Stay back from the edge of the bank. The bank where you are located is a steeply cut drop to the water while the shore line on the opposite side is flat and covered with a great deal of gravel, rock and large trees.

Why the differences from one side of the creek to the other?

As water flows in creeks and river it 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 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**

The trails in Fish Creek Provincial Park are considered multi-use. This means that all trails are for all users regardless of whether they are pedestrians, cyclists, dog walkers, etc.

The trail through this area is quite windy with curves and hills. What potential hazards does this create?

Limited visibility could lead to collisions; hills can lead to increased speeds.

How can these hazards be minimized or avoided?

Be cautious in areas of limited visibility, be sure you are always on the right hand side of the trail, if on a bike use a bell and slow down.

## **Stop #12 - CONTROL MARKER CODE: RI**

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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

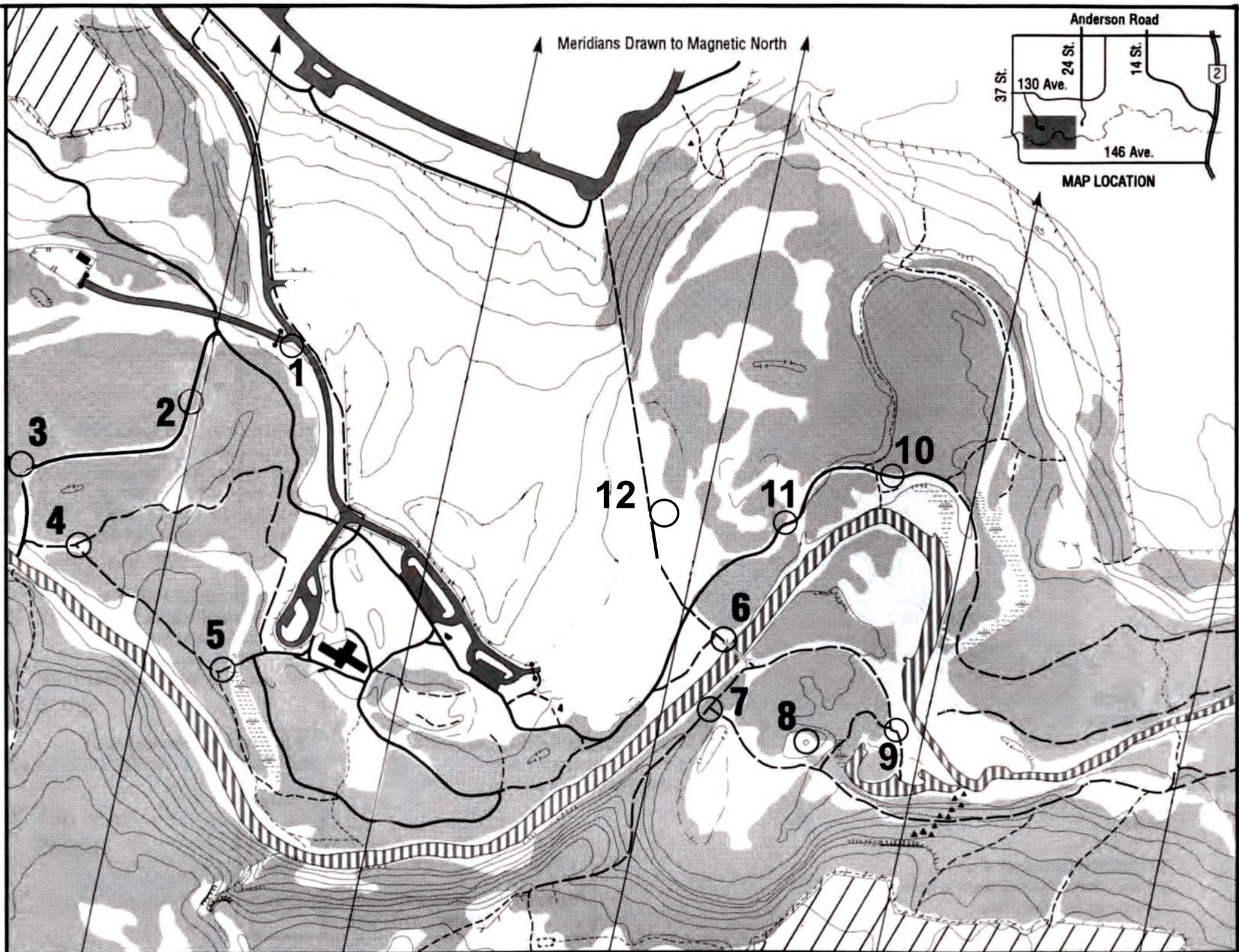
SCALE 1:5000



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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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



**NOTE**

- Park speed limit is 30 km/hr
- Please use parking lots adjacent to the picnic area and walk to the Centre along the paved path
- Do not leave valuables in your vehicle

## DIRECTIONS

### From Anderson Rd SW heading west:

- Follow signs to Tsurufina 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 Tsurufina 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

