Orienteering in Fish Creek Provincial Park
Human Impact Activity

An Educational Field Study for
Junior and Senior High School Students

Fall 2018

Fish Creek Provincial Park
Telephone: (403) 297-7927
www.fish-creek.org
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Section I – Before You Go

1. Class Discussion about the Field Study

Alberta’s Parks and Protected Areas

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. The province’s network of parks and protected areas covers roughly 27,500 square kilometres and includes more than 500 sites. This network helps to ensure that Alberta’s biodiversity is preserved for future generations.

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.”

Provincial parks exist to protect provincially significant natural, historical and cultural features. They contain a range of outdoor recreation, interpretive and environmental education opportunities, facilities and services so that visitors can explore, learn, understand and appreciate the natural world.

The following is a list of rules that reflect the Park’s mandate to protect and preserve the natural environment.

Do not feed or disturb wildlife

Feeding wildlife is not necessary as the Park’s ecosystem provides all the food and habitat wildlife require for their basic needs. Human food can be unhealthy for wildlife as it does not meet their nutritional requirements. Quietly observe all wildlife from a safe distance.

Leave only footprints

Take only pictures. Everything in the Park - living and non-living – is protected to help preserve the complex living systems that thrive in Fish Creek Provincial Park. Students are welcome to share their discoveries, but must remember to leave everything as they found it.

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. Please do not bring pets on the field study. They can be distractions for students and pose a health risk for those allergic to pets. Guide Dogs and Assisted-Living Dogs are the only animals permitted in Park buildings.

Pitch in

Litter must be placed in the garbage bins provided or packed out of the park. Human litter is hazardous to Park plants and wildlife.

Fire in its place

Use only designated fire pits. You must provide your own firewood and ensure fires are completely extinguished before leaving them. The collecting of deadfall and other natural material for fires in the park is prohibited.
You are not Alone

There will most likely be other school groups and visitors in the park at the same time as you. Be sure to share the trails, do not try to pet or call other people’s dogs, be quiet and respect the other visitors in the park.

Discussion Checklist

Here is a checklist of things to discuss at school prior to the field study day:

__ Discuss the fact that Fish Creek Provincial Park is not a city park. It is one of many Alberta parks and protected areas.

__ Discuss the purpose of provincial parks and protected areas. 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. Possibilities include:

- Leave ant hills, nests and rotting logs alone and intact. They are animal homes.
- Walk carefully around bushes and trees, not through the middle of them.
- Stay on the trails. When leaving the trails to complete program activities walk carefully, watching each step to avoid crushing small plants and trees.

__ Discuss the Park rules. These rules reflect the provincial parks mandate to protect and preserve our natural environment.

__ 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.
Section II - Your Field Study Day

1. Orienting a 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

Share the following information with your class. Orienteering control markers are red and white. On the course at Fish Creek Provincial Park, they are 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. NOTE: the letters do not unscramble to spell any particular word or phrase.

3. Recording the Code Letters

Record the two letter code from the control marker in the space provided on the back of the map or in the space provided on the “Human Impact” activity sheets for each station.
4. Human Impacts in Fish Creek Provincial Park Activity

The following pages are the Human Impacts Activity Questions and Orienteering Maps to accompany your Orienteering activity.

It is recommended that each student has a copy of the Activity Questions, pages 7 – 12 and the Orienteering Map and Blank Control Card sheet, pages 20 and 21. Each Teacher/Leader should have the Activity Answer Key, pages 13 – 17 and the Orienteering Map and the Control Card Answer sheet, pages 20 and 22.

Please print pages 7 – 17 on letter (8.5” X 11”) paper.

Please print map pages 20 – 22 on legal (8.5” X 14”) paper.
5. Human Impact Activity Questions

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 between control marker #2 and control marker #3 has been elevated far above the normal ground level. What purpose might this elevation serve? (Clue: look for the large cement structure adjacent to the trail between the stops and consider the location of the creek).

Stop #4

CONTROL MARKER CODE: ____

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?

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

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

Have you see 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?
Examine the grasses on the hillside. You should find at least two distinct varieties. One can grow quite tall, almost a metre (or more), has wide flat blades and loose tassel-like seed heads, this is Smooth Brome. The other is quite a bit shorter, up to 1/2 metre and grows in a tuft or bunch, this is Rough Fescue.

The fescue is a native grass, our provincial grass and evolved in this part of the world. The 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 is on the Park’s habitats?

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

In the past this area was used to keep horses. Explore around the perimeter of the coral fences and examine the plants inside and outside the fence.

What type of plants dominate the area inside the fences?

How might horses have been responsible for the introduction of these plants into the fenced area and other areas of the Park?

What are three methods that the Park could employ to control and eliminate weeds in this area?

1)

2)

3)
6. Human Impact Activity Answer Key

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 between control marker #2 and control marker #3 has been elevated far above the normal ground level. What purpose might this elevation serve? (Clue: look for the large cement structure adjacent to the trail between the stops and consider the location of the creek).

*The elevated trail 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. You should find at least two distinct varieties. One can grow quite tall, almost a metre (or more), has wide flat blades and loose tassel-like seed heads, this is Smooth Brome. The other is quite a bit shorter, up to 1/2 metre and grows in a tuft or bunch, this is Rough Fescue.

The fescue is a native grass, our provincial grass and evolved in this part of the world. The 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 quick growing forage crop for cattle and horses.*

What do you think the impact of the brome is on the Park’s habitats?

*Brome has taken over most grassland areas in the Park and 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 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?

- 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

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

In the past this area was used to keep horses. Explore around the perimeter of the coral fences and examine the plants inside and outside the fence.

What type of plants dominate the area inside the fences?

*Weeds such as Canada thistle, clover, stinkweed, bluebur, wild mustard*

How might horses have been responsible for the introduction of these plants into the fenced area and other areas of the Park?

*They may have carried seeds or bits of roots on their hooves. Seeds may have been in their feed and hay. Seeds may have been deposited with their feces. These seeds then were able to grow and establish in the corals because the horses had trampled and destroyed much of the other vegetation inside the fences.*

What are three methods that the Park could employ to control and eliminate weeds in this area?

1) *Mechanical, mowing and pulling*
2) *Chemical, applying herbicides*
3) *Biological, using insects, funguses or bacteria to destroy the weeds*
Section III – Appendices

Appendix A – Access Map to the Fish Creek Environmental Learning Centre
Appendix B – Orienteering Map for the Shannon Terrace Area
Access Map
Fish Creek Environmental Learning Centre
13931 Woodpath Road S.W., Calgary, Alberta T2W 5R6
Phone: (403) 297-7827 Fax: (403) 297-7849

NOTE:
- Park speed limit is 30 km/hr.
- Please park in the picnic area and walk to the Centre along the paved path.
- Do not leave valuables in your vehicle.

Directions:
Take Anderson Road West to 37th Street S.W. Head south on 37th Street S.W. to 130th Avenue S.W. (Second set of lights on 37th Street S.W.). Turn left onto 130th Avenue S.W. and then take your first right onto Woodpath Road S.W. Drive straight ahead into the Park and continue to the bottom of the hill. The Environmental Learning Centre is on the right hand side (watch for signs).
**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

<table>
<thead>
<tr>
<th>1.</th>
<th>Junction of roads.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Edge of clearing.</td>
</tr>
<tr>
<td>3.</td>
<td>Top of curve.</td>
</tr>
<tr>
<td>4.</td>
<td>Trail junction.</td>
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<tr>
<td>5.</td>
<td>End of culvert.</td>
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<tr>
<td>7.</td>
<td>Trail junction.</td>
</tr>
<tr>
<td>8.</td>
<td>Top of hill.</td>
</tr>
<tr>
<td>10.</td>
<td>Past the two stumps.</td>
</tr>
<tr>
<td>11.</td>
<td>Creek side of trail.</td>
</tr>
<tr>
<td>12.</td>
<td>Fence.</td>
</tr>
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CONTROL CARD

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