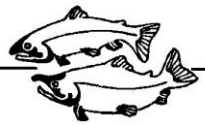


SALUTE TO THE SOCKEYE 2010

This year marks the dominant year of the sockeye salmon run at Adams River. From October 2 to October 24, B.C. Parks and Fisheries and Oceans Canada (F.O.C.), with assistance from the First Nations communities and the local Adams River Salmon Society, are working together to coordinate this event. The challenges faced by all, including the salmon, have enhanced a sense of community, stewardship and partnership to help make this event successful. Many millions of sockeye are expected to return to their home to spawn and die. Visitors and filmmakers from all over the world will be visiting the Roderick Haig-Brown Park. During this time period, educational resources such as kiosks, display panels, tents, and interpreters will be on site to answer your questions. Visitors to the Salute will include school children from Kamloops, Salmon Arm, Vernon, Kelowna, Vancouver, the Cariboo and other provinces. These large numbers will require that all visitors be especially considerate in order to preserve the integrity of the site and respect the salmon in the final days of their lives.

Please teach your students and supervisors the following considerations:

1) Please do not touch, disturb, or try to help the fish in any manner, nor remove tags from dead fish.
2) Please put all lunch bags, garbage and paper in your backpacks or in the litter barrels provided.
3) Please obey all posted signs.
4) Do not go behind the tents. This DANGER AREA is very hazardous due to electric wires and pipes.
5) Groups must stay on marked trails.
6) Students are expected to stay with their group leader at all times.
7) On a nature trail, it is always best to walk so that wildlife is not frightened, plants are not damaged, and students are not hurt
8) Respect the salmon and other living creatures – do not interfere with their behaviour, throw rocks, move dead fish, etc.

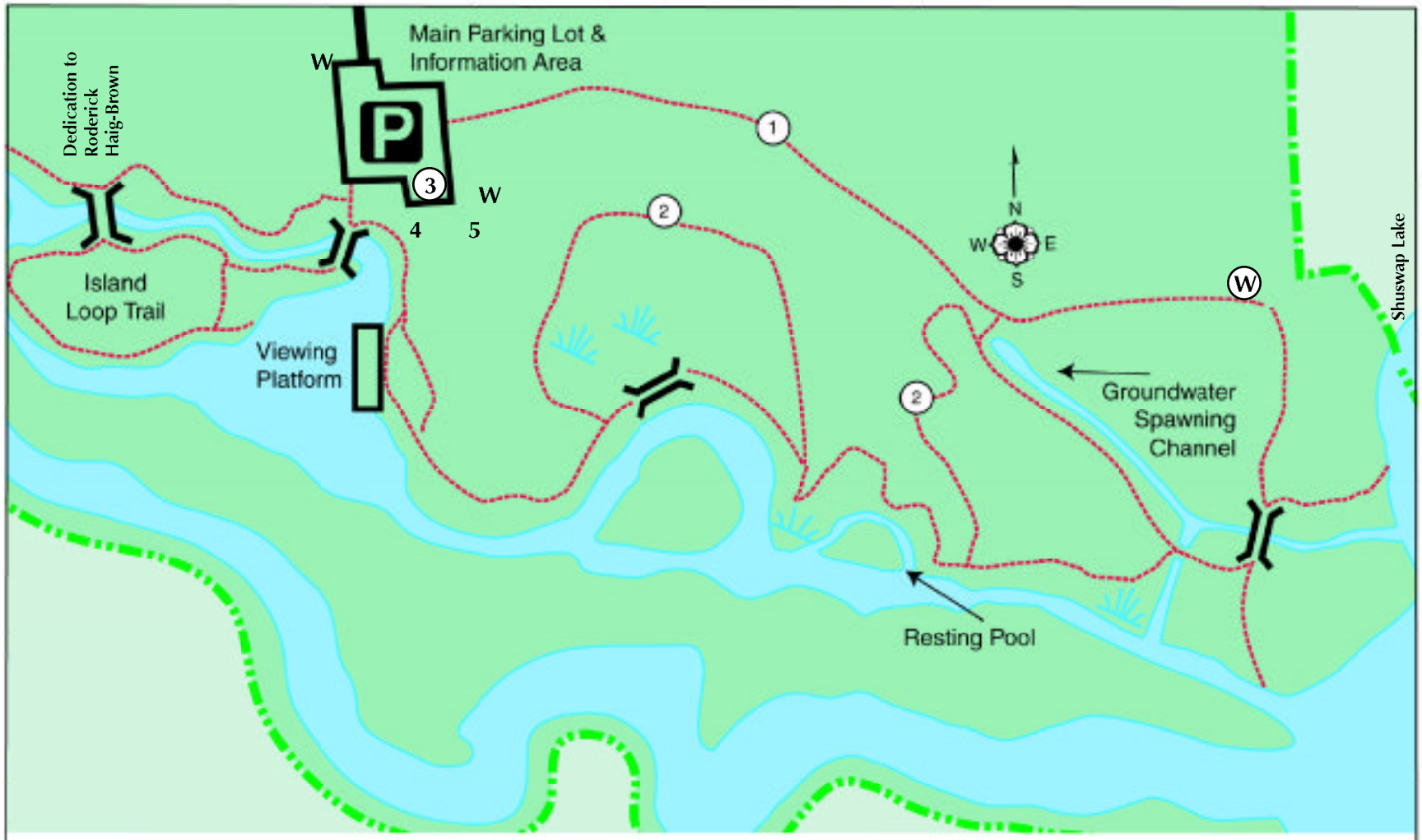
Helpful Hints for Teachers

1) You may wish to send background information home to parent volunteers prior to the field trip.
2) Due to the large number of buses on site, please be sure students and/or parent helpers know their bus number and departure times. School buses will drop off and pick up students from Main Parking Lot only.
3) All supervisors should have watches to ensure that bus schedules are met.
4) Backpacks are great for carrying lunches and students' work.
5) You may wish to take along a compact first aid kit in case of wasp stings, etc. There will be a first aid kit and cell phone for emergency use in the Fisheries and Oceans area at the main parking lot. Most staff will have radios.
6) Most trails and designated outhouses allow for wheelchair accessibility.
7) Be sure to take your permission slips and emergency contact numbers for the students.
8) Fisheries and Oceans Canada interpreters will be on site, and will be identified by caps and/or shirts.
9) Polarized sun glasses are great for cutting the glare of the water. Students may want to bring them from home.
10) The main parking lot will have several tents set up. Although the salmon holding tanks will not be used this year, the students would probably be interested in having half an hour to go through the tents and displays in this area. Local community groups are supposed to have concessions open daily.
11) The river banks and the river can be extremely dangerous due to erosion and undercutting. Visitors are expected to use caution and common sense when close to the river.

PARKING FEES

* School buses will not be charged to visit the site but private cars will be charged $3.00.

Roderick Haig-Brown Provincial Park



1 Phil Rexin Trail

2 Lower Trails

W Washrooms

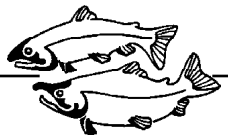
3

4 Long Display

5 Kiosks - Fisheries and Parks

Trail

Boundary

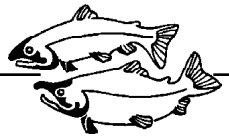


BUS TRIP ACTIVITY

Complete this chart on your bus trip to Adams River.

On our field trip, I think we will:

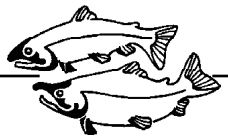
SEE	**HEAR**
TOUCH	**SMELL**



BUS TRIP ACTIVITY

✔ **Check off these things as you see them on your way to Adams River. Illustrate any 4.**

- ☐ **LaFarge cement plant**
- ☐ **South Thompson River**
- ☐ **speed limit sign**
- ☐ **cattle**
- ☐ **tree with green and yellow leaves**
- ☐ **Kamloops Wildlife Park**
- ☐ **Little Shuswap Lake**
- ☐ **Chase**
- ☐ **a large bird nest**
- ☐ **a school**
- ☐ **a bridge**
- ☐ **a boat**
- ☐ **railway tracks**
- ☐ **hydro power lines**
- ☐ **golf course**
- ☐ **island**
- ☐ **ginsing farm**
- ☐ **a river buoy**
- ☐ **wildlife**



BUS TRIP ACTIVITY

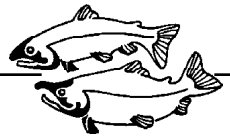
Bus Trip Blackout

While enroute to the Adams River, shade in the corresponding box if you see the following:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Underline those that could be harmful to salmon. Circle those that could be helpful to salmon.

1. GINSING FARM
2. CEMETARY
3. HAYSTACK
4. STOCKYARDS
5. SCHOOL
6. ISLAND
7. SOUTH THOMPSON RIVER
8. LIVESTOCK
9. CHURCH
10. DECIDUOUS TREE
11. RAPTOR NEST
12. CATTLE USING RIVER
13. WILDLIFE PARK
14. SWAN
15. BUOY
16. CONIFEROUS TREE
17. EROSION BY WATER
18. TRAIN
19. LOG BUILDING
20. GOLF COURSE
21. SAND BAR
22. FISHERPERSON
23. HOUSE UNDER CONSTRUCTION
24. CEMENT FACTORY
25. CHASE, B.C.



QUESTIONS

Throughout the day, you will probably have many unanswered questions. Record your questions here for future classroom discussion.

Quiet Time

Sit quietly on the bank and observe the river for about 10 minutes. List 10 things you see.

1. _____ **6.** _____

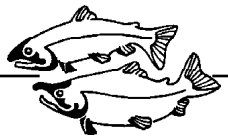
2. _____ **7.** _____

3. _____ **8.** _____

4. _____ **9.** _____

5. _____ **10.** _____

What was the most interesting thing you saw? Explain why it was your favorite?



DEAD SALMON!

The Adams River is world-famous for spawning sockeye salmon. The dead salmon provide nutrients to the soil and water around the river.

Observe a dead fish (don't move or touch) along the bank of the river. Describe (sketch or write) the changes that have happened since its death.

List several living things that the dead salmon might help in this area.

1._____

2._____

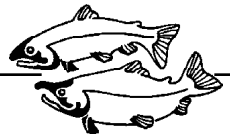
3._____

4._____

5._____

6._____

7._____



WATER QUALITY

Water Temperature **Equipment needed: Thermometer**

Water temperature is one of the most important factors for survival of aquatic life. Most aquatic organisms become the temperature of the water that surrounds them. Salmon do best in water that is not warmer than 15c., however they like the temperature to be lower than 12c. Find a safe, quiet spot and have your leader take the temperature of the water in the river and then again in the Groundwater Spawning Channel. Don't step in the water - just hold the thermometer in the water for at least 2 minutes, and then read it while the bulb is still in the water.

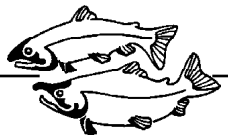
River Temperature: _____ Groundwater Channel temperature: _____

Dissolved Oxygen

Oxygen is as essential to life in water as it is to life on land. The amount of oxygen found in water is called the dissolved oxygen concentration. We will not do a test to determine how much oxygen is in the water, but look carefully at the river and record a theory of how the oxygen gets into the river water, which keeps the aquatic life alive.

Turbidity

Turbidity means clearness of water. There is always some sediment or silt in water, but when there is a lot, it is very bad for fish and other aquatic organisms, as it will clog their gills. Brainstorm with your group how silt could get into the river water.



MARK-RECAPTURE PROGRAMS

If the fish tagging activity is occuring, read the information panel at the main parking lot and find answers for:

Why are the fish being tagged?

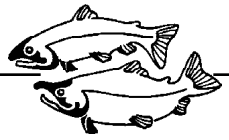
How are the fish being captured?

Where does the tag go on the fish?

Why are two tags applied?

What information is on the tag?

Illustrate the tagging process.



D.F.O. KIOSK
MAIN PARKING LOT

By reading panels or asking park interpreters, try to answer as many of these questions as possible:

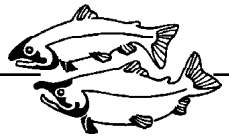
1. **Name the stages of the life cycle of salmon beginning with the egg.**
   EGG _____ _____
   _____ _____
   _____ _____

2. **What is the usual life cycle of a sockeye salmon? _____ years.**

3. **Other than sockeye, name some of the other salmonids that live in B.C.'s waters.**
   _____ _____
   _____ _____

4. **List some of the differences between the spawning male and female salmon.**
   _____
   _____

5. **Plants growing along the sides of the river help provide a healthy habitat for fish. What are the names of some of these plants growing in the riparian area?**
   _____ _____
   _____ _____
   _____ _____



LONG DISPLAY - D.F.O.

With your parent helper, find the "COURTSHIP AND DEATH ON THE ADAMS RIVER" panel at the Long Display.

Answer YES or NO to these facts: If the answer is NO; correct the statement to make it yes.

1. **Male salmon compete for females, sometimes fighting with each other. _____**

2. **The male salmon digs a series of nests or redds where the female will deposit the eggs. _____**

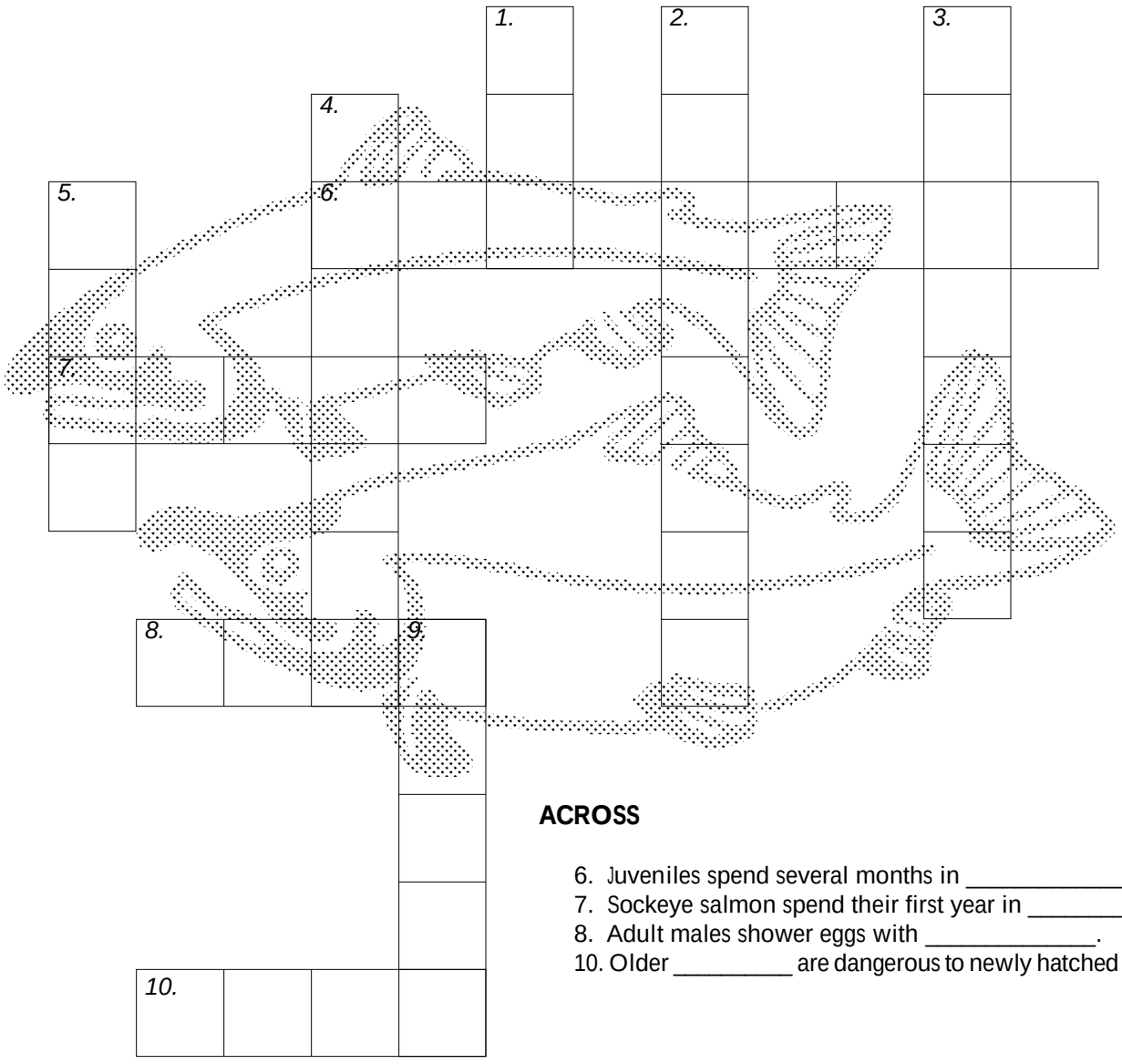
3. **Digging a redd usually only takes a few minutes. _____**

4. **The female lays one egg in each redd. _____**

5. **The female covers the fertilized eggs with the gravel from her new nest. _____**

6. **The entire spawning process will take eight to ten hours. _____**

D.F.O. - LONG DISPLAY
LIFE CYCLE OF THE ADAMS RIVER SOCKEYE

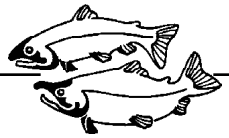


ACROSS

6. Juveniles spend several months in _____.
7. Sockeye salmon spend their first year in _____.
8. Adult males shower eggs with _____.
10. Older _____ are dangerous to newly hatched sockeye.

DOWN

1. Adults live on _____ after entering fresh water.
2. Mature sockeye feed on _____ and shrimp.
3. After a winter of development, eggs hatch as _____.
4. The female digs _____ nests while protected by the male.
5. About _____ of the fry will reach the ocean.
9. One _____ will survive from egg through fry.



B.C. PARKS
PROTECTING SALMON AND THEIR HABITAT

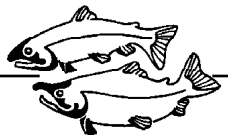
Read the information and complete the following activity.

Salmon need special conditions for spawning, growth and survival.

The following conditions are important.

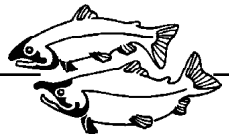
Salmon eggs depend on _____ water and _____ to survive. _____ and healthy _____ helps to protect the salmon eggs.

Siltation, caused by excess water run off, is a sign of _____ . If too much _____ covers the salmon eggs, they will suffocate and die.



B.C. PARKS
CHANGES OVER TIME

After reading SLIP SLIDING AWAY, list and illustrate at least 3 signs of erosion that could be found along the banks of Adams River.



B.C. PARKS
ALL VERY NEW

Read the panel and label the five statements below (T) True or (F) False.

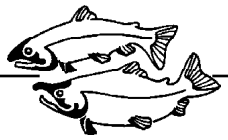
☐ **Scientists know why there is a dominant run, and why they return to their home stream to spawn.**

☐ **Sockeye salmon are one of the least studied fish species in the world.**

☐ **The spot where you are standing was blanketed by a kilometre of solid ice 10 000 years ago.**

☐ **Over the decades, the salmon moved further and further inland until some reached the Adams River.**

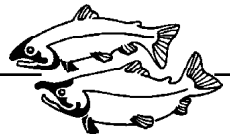
☐ **It took only a few years before the melting ice gave way to anything resembling what you see today.**



B.C. PARKS
MOVING AROUND

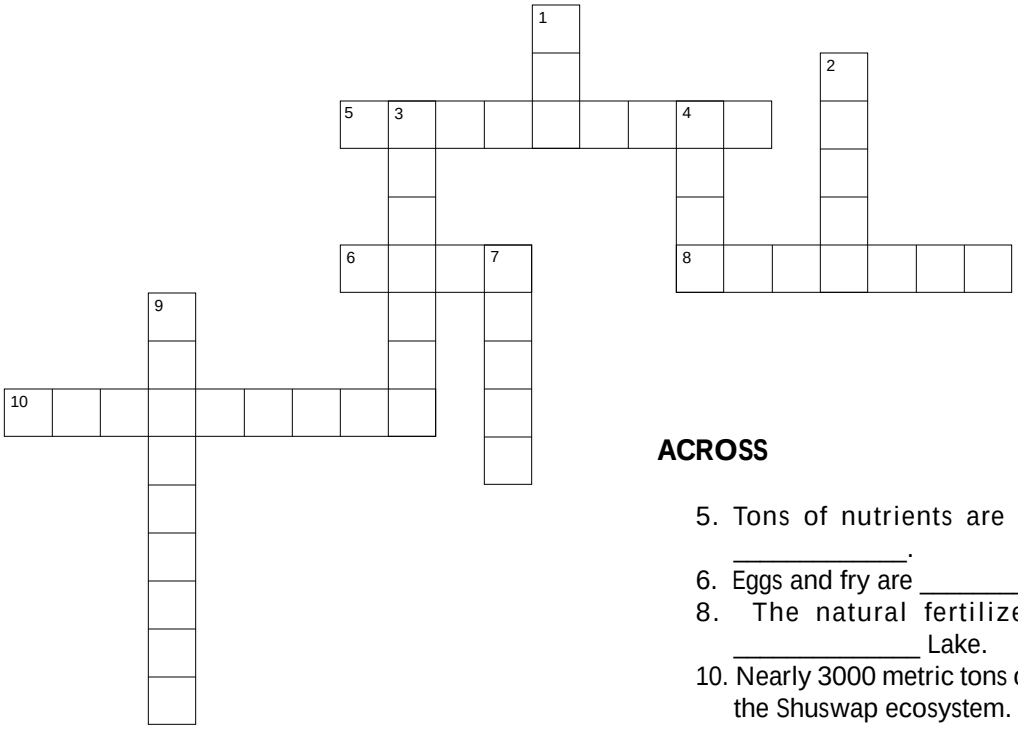
Fill in the blanks with the correct word.

Every year the Adams River changes its _____; sometimes dramatically. Over the centuries the Adams has _____ enough _____ from upstream to create the land you are now standing on. In some places the _____ is running in the soil below your feet. Each spring the river's flow _____ as the_____at higher elevations melts. The force of this _____ may cause the_____ to _____ or cut through its _____ and create new _____ or courses.



B.C. PARKS
WHY WE LEAVE DEAD SALMON ALONE

With your parent helper, find the B.C. Parks: "WHY DO WE LEAVE DEAD SALMON ALONE?" panel, and use the information to complete this activity.

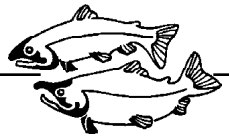


ACROSS

5. Tons of nutrients are introduced into the Shuswap _____.
6. Eggs and fry are _____ to other animals.
8. The natural fertilizer (nutrients) is carried into _____ Lake.
10. Nearly 3000 metric tons of _____ are introduced into the Shuswap ecosystem.

DOWN

1. Four hundred million _____ appear in the lake.
2. The adult's bodies are carried away by (2)_____ and (3)_____ .
4. Some fish will feed on the two billon _____.
7. The _____ and decay of a million spawning sockeye provides nutrients.
9. The decomposed adult's bodies will _____ the soil andplants .



B.C. PARKS
BORN ORPHANS, DIE CHILDLESS

Find the panel with the title, BORN ORPHANS, DIE CHILDLESS.

Number the following points placing them in the order they occur on the panel.

☐ **With nature's plan completed, the salmon will die in a few days.**

☐ **The female deposits her eggs in the nest and the male fertilizes them with a shower of "milt".**

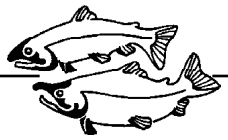
☐ **The female moves upstream to churn up gravel to cover the eggs she has laid in the nest.**

☐ **The female swims on her side and flaps her tail repeatedly to build a nest called a "redd".**

☐ **More eggs will be deposited and fertilized until both male and female are completely exhausted.**

☐ **Male and female salmon pair up in the fast moving stream.**

☐ **Each year the sockeye come to the Adams River to spawn and die.**



THE GROUNDWATER CHANNEL

Describe or sketch what you see.

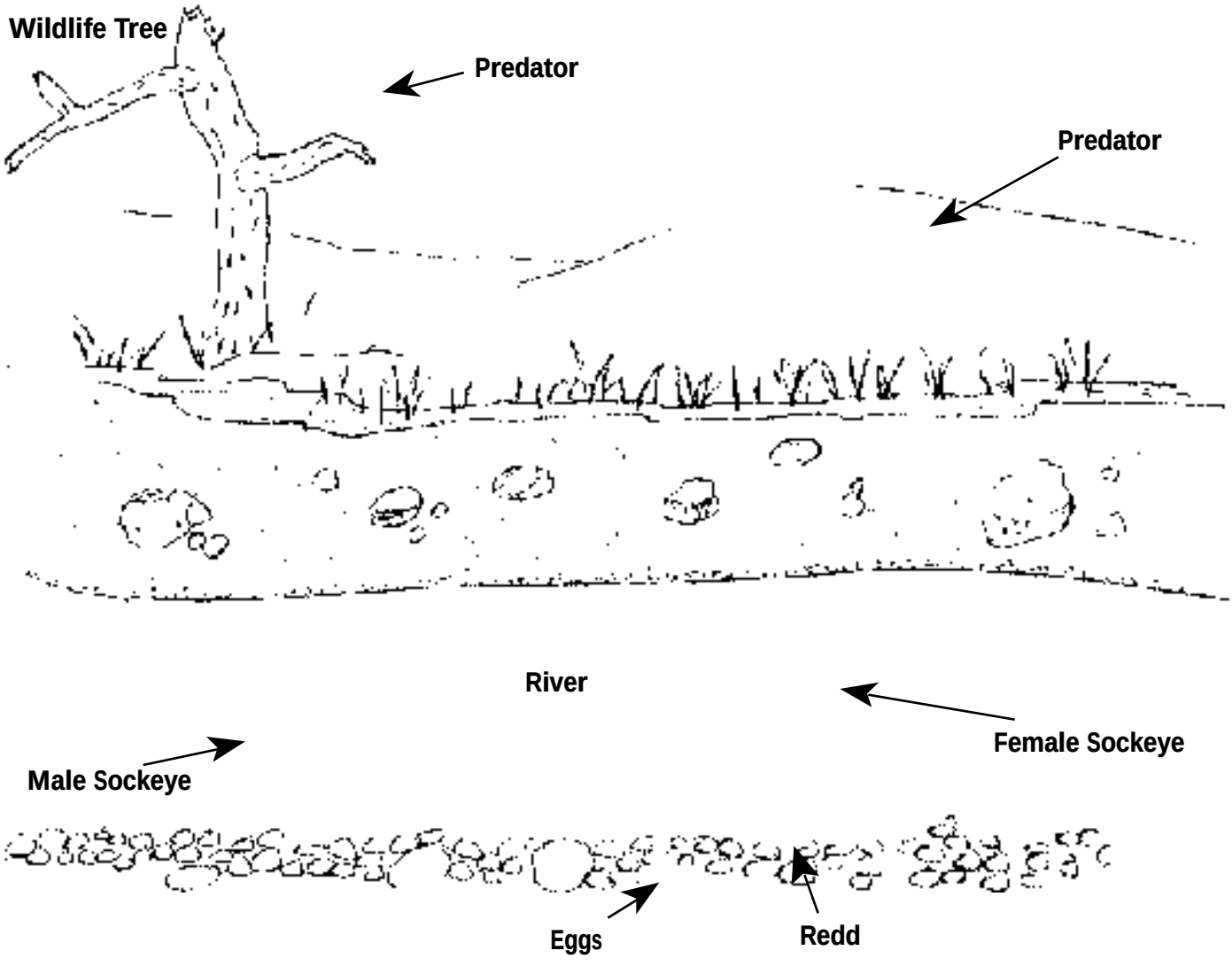
1. The male salmon.
2. The female salmon.
3. The water.
4. The riparian area close to the water.

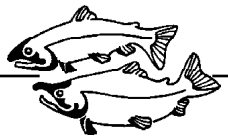
THE GROUNDWATER CHANNEL

The groundwater channel is the best site for the following activity. Refer to the map for the location of the groundwater channel.

Some things in the following diagram have been labelled, but are not drawn. While observing the activity in the river, sketch in the missing parts. If you do not have colored pencils with you, make careful note of the colors you see and color the diagram back at school.

Cut-away section of river





B.C. PARKS
BRINGING THEM BACK

1. The groundwater channel has provided successful protected habitat for substantial numbers of some fish. List 4 of these.

_____ _____

_____ _____

Circle the one that is <u>not</u> a true salmon.

2. The Upper Adams Sockeye run was likely larger than the Lower Adams run. What happened to eliminate the Upper Adams run? When?

_____

_____ _____

3. List 2 things that have been done to re-establish the Upper Adams run.

_____

_____

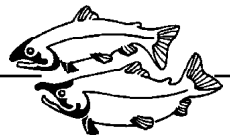
4. Do you think these efforts have been successful? Why or why not?

_____

_____

_____

_____

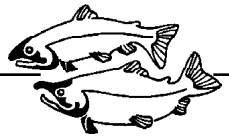


RETURN TRIP ACTIVITY

Complete this chart on your bus trip home from Adams River.

On our field trip to Adams River I:

SAW	**HEARD**
TOUCHED	**SMELLED**



RETURN TRIP ACTIVITY

Checklist of Observations

What did you see?

- ☐ **salmon struggling in water**
- ☐ **pair of salmon**
- ☐ **salmon preparing a redd**
- ☐ **female salmon digging a redd**
- ☐ **salmon fighting**
- ☐ **salmon releasing milt**
- ☐ **salmon with almost no tail fin left**
- ☐ **salmon releasing eggs**
- ☐ **predator**
- ☐ **a salmon that looks tired and battered**