Lesson 2-6: Riparian Zones Field Trip

Time of Lesson: 2 hours (this time will vary depending on travel time and number of students attending)

Instruction Objectives: Student apply their classroom learning to the field.

Strategies and Activities: Students record observations and drawings of the riparian zone, do a species count and, if possible, a comparison between a mature and immature riparian zone.

Materials:

- Handout: *Worksheet 2c - Riparian Zones (if not completed in class in earlier lesson)*.
- Handout: *Worksheet 2h - Biodiversity Inventory*.
- Pencils, clipboards, paper, class camera.
- Guest Speaker: please contact NWSRI for a list of possible guest speakers to accompany your class. Alternatively, if you know of any biologists please invite them to attend and lead the students through the material.
- A bus for transport if necessary.

Student Assessment:

- Participation in field trip.
- Ability to identify components of the riparian zone and measure biodiversity.
- Ability to identify areas along the riparian zone that may need rehabilitation and why.

Field Trip (1-1.5 hours)

After arriving at the field trip site, review safety issues as well as respecting the river, river banks and the environment.

Key Points

Do not remove anything from the site!

Take caution when walking along the riparian zone, do not intentionally destroy vegetation or in-stream structures like logs.

Do not throw rocks into the water - this disturbs fish and can harm eggs and young fish.

Do not leave garbage at the site.

Have students break into groups of 10-15 students. Potential activities per group include:

- walk and observation of the riparian zone (*Worksheet 2c - Riparian Zones optional)*
- talk about fish and fish habitat and link to Nechako white sturgeon (by biologist)
- conduct biodiversity inventory *(Worksheet 2h - Biodiversity Inventory)*

It is recommended that the biodiversity inventory continue during the entire field trip. This allows the students to more accurately record all the different plants and animals they see.

Optional Activity

Assign each group with a camera to visually record different aspects of the riparian zone and river habitat. In a journal or piece of paper, record with each photograph: what the pictures show (eg. healthy riparian zone, fish, bird track, etc.); why they took that photo; and where it was along the site (eg. looking upstream or downstream, river right or river left, top, middle or bottom part of site).

Back in the classroom, have each group organize their photographs into a slideshow. Have them present their slideshow on the SMARTboard to the class and describe what they saw and learned during the field trip.

The location of the field trip is up to the teacher. If the teacher knows of an easily accessible stretch of creek, please contact the NWSRI so they can add it to this list. Below are suggested field trip locations that provide good opportunities for students to learn about the riparian zone, fish habitat, links to Nechako white sturgeon, and rehabilitation projects.

Field Trip Option 1: Murray Creek, Vanderhoof

The Murray Creek Demonstration Site is a rehabilitated section of the upper section of Murray Creek. Murray Creek flows from the Blue Mountain hills through agricultural and residential lands to the Nechako River. It empties into the north side of the Nechako River just upstream of the Burrard Street bridge, right at the Migratory Bird Sanctuary and the only known sturgeon spawning site.

The Murray Creek Rehabilitation Project is a long standing local restoration project to improve the habitat along and within Murray Creek to enhance a long lost sport fishery of rainbow trout, to educate ranchers and farmers on best practices along creeks, to improve water quality in support of downstream populations of Nechako white sturgeon and chinook salmon, and to provide hands-on experience to students.

To Demonstration Site is located on private land, but is accessible for school groups. There is plenty of room for busses to access the site and turn around, and the walking for students and educators is easy-moderate. There is a large billboard at the site that explains all the work that has been done at this site, as well as a brochure. The brochure is available online at www.newssociety.com, and the accomanying CD.

Learning objectives on this field trip can include:

- visual understanding of the riparian zone.
- able to see examples of rehabilitation within a riparian zone and creek.
- link upstream areas and they can affect downstream resources (eg. sturgeon do not live in Murray Creek, but the quality of the water in Murray Creek affects sturgeon).
- potential to see fish and other animals in their natural habitat.
- good location to conduct *Worksheet 2h - Biodiversity Inventory*.

Murray Creek is located about a 10 minute drive from downtown Vanderhoof. For directions please contact NWSRI.

Field Trip Option 2: Stoney Creek, Vanderhoof

Stoney Creek runs from Nulki Lake, over a series of falls into agricultural land, and then through residential Vanderhoof. It flows into the south side of the Nechako river at the Migratory Bird Sanctuary and the only known sturgeon spawning site.

Stoney Creek was part of the traditional fishery for Saik'uz First Nation. Chinook salmon and coho salmon spawn in this river.

There is a walking trail and bridge over Stoney Creek that is a easy walk and is in site of the Nechako River. Stoney Creek provides a good example of a stream that has direct impacts to the Nechako River. There are interpretive signs along the trail that speak

to the positive and negative aspects of this river. The lower reach (along the trail) has been altered due to human impacts and the riparian zone is greatly impacted.

Learning objectives on this field trip can include:

- visual understanding of the riparian zone.
- obvious impacts from land use practices on the riparian zone and river habitat.
- linkage between improving habitat for salmon to allow greater food source for sturgeon.
- potential to see fish and other animals in their natural habitat, particularly from the walking bridge.
- interpretive signs add information about other aspects of the riparian zone.
- good location to conduct *Worksheet 2h - Biodiversity Inventory*.

Stoney Creek is located in Vanderhoof at the west end of Douglas Street. There is a bridge over the creek, with good access for busses. It is also walking distance from schools in downtown Vanderhoof.

Field Trip Option 3: Stellako River, Fraser Lake

The Stellako River is an important sockeye salmon spawning river. In the fall there are thousands of sockeye in the river for students to see. The river is very clear and access to the river at the gravel pit is possible for busses.

The Stellako River offers a good opportunity for students to see a relatively natural riparian zone. There is a trail along the river for students to explore the riparian zone.

The Stellako River feeds into Fraser Lake that Nechako white sturgeon have been known to use at different times of the year.

Learning objectives on this field trip can include:

- visual understanding of the riparian zone.
- link upstream areas and they can affect downstream resources.
- potential to see fish and other animals in their natural habitat.
- good location to conduct *Worksheet 2h - Biodiversity Inventory*.

The Stellako River is located just west of Fraser Lake off of Francois Lake Road. For directions please contact NWSRI.

Biodiversity Inventory

Biodiversity is the variety of life in the world or in a particular habitat or ecosystem. *The healthier the riparian zone, the greater the biodiversity.*

Conduct a biodiversity inventory (counting plants and animals) of a riparian zone. First, describe your riparian zone. Next write the names, draw a picture or use tally marks for each of the species you find in your site (evidence of an animal counts too, eg. animals tracks). When you are done, what does your data tells you? Do you think this site is healthy or unhealthy? *OPTIONAL: Compare the biodiversity of an altered vs. unaltered or rehabilitated riparian zone to see if there is a difference in the number of species between the two habitats.*

Description of Riparian Zone	Biodiversity Inventory
Name of River: *Tributary to what river?*	*Plants*
What kind of riparian zone? ❑ *Altered* ❑ *Rehabilitated* ❑ *Mature* *Length of inventory site: _____ m* *Date of inventory: _____*	*Mammals*
	Fish, Reptiles and Amphibians
Do you think this is a healthy riparian zone? ❑ *Yes* ❑ *No* *WHY or WHY NOT?* _____ _____ _____ _____	*Birds*
	Invertebrates

GRADE: _____ TEACHER: _____

Feedback Form for Unit 2 - Lesson 2-6

Please fill in the information below. If you have additional comments, please make them directly in the lesson plan. Please feel free to email me any immediate concerns: michelle@mrconcepts.ca.

Background Information:

Was there enough information provided to conduct the lesson successfully?
Yes or No

If no, what additional information and/or resources would be useful for this lesson?

Activities:

Were the activities engaging to the students? Yes or No

Was the timeline of the activities a good estimate?
Too Long ____ Too Short ____ Just Right ____

Any comments?

Worksheets:

Were the worksheet(s) effective in teaching and/or reviewing the lesson material?
Yes or No

Was the answer key helpful? Yes or No

Additional Resources:

If used, were the resources suggested or provided for this lesson useful? Yes or No

What else would you suggest be needed for this lesson?