

# Nisga'a Fisheries: Marine Conservation Youth Stewardship Lesson Plan

Title:

A British Columbia Teacher Curriculum Guide for the Theme:  
Marine Ecosystems, Habitat Protection & Conservation, and Abalone  
Species at Risk.

Lesson #6:

Marine Biodiversity, Ecosystems, and Habitat Protection (Part  
3) – Field Trip Visit to Your Local River

By

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# Nisga'a Fisheries: Marine Conservation Youth Stewardship Lesson Plan

Lesson: Our hope for this teacher guide is that you will help your youth form a stewardship group, research the eco-needs of your local community, and mentor your youth to make a difference in their community and school by completing action projects.

Ask your group the following important questions: "Where is it important for your group to go on a field trip in your community? What is the purpose of your field trip, and what will be your youth's eco-friendly action project(s) for this field trip? How can you help your community to get involved with the youth stewardship group that you will be forming? How can your youth stewardship group make a difference today and for the future for your local community?"

For this lesson, our eco-friendly action project was to go on a field trip and visit the Nisga'a Fisheries Fishwheel on the K'alli Aksim Lisims (the Nass) River in Gitwinksihlkw, BC. Our purpose for the youth was to:

- Become an "Eco-Expert" when learning about the importance of the Nisga'a Fisheries, and how the whole community is responsible for being a protector and guardian of the river system, salmon, and oolichan for today and for the future.
- Have the youth stewardship group adopt this watershed by learning about it, and care for it.
- Travel to a close-by destination to ease our carbon emissions.
- Identify careers in their area that make a difference to the earth and community! Many of our youth have family members that work with the Nisga'a Fisheries.

We divided the students in groups so that approximately five students could take turns to ride the Nisga'a Fisheries boat upstream to the upper Fishwheel. The youth that were not on the boat could explore the rocky and sandy riverbank. The students on the riverbank were encouraged to fish with their fishing rods, walk along the river rocks, walk on the dock (if they had a life jacket on), and play in the sand.

At the Fishwheel, the students watched and counted the number of salmon that the Fishwheel would catch in each bucket as it pulled the buckets out of the cold river water. This was a wonderful opportunity to identify a few of the Nisga'a Fisheries careers as these young 6-12 years old are well on their way to becoming inquisitive environmental stewards! The youth got to experience first hand how they and the whole community can make a difference by being a guardian and protector of the river ecosystem for today and the future. When we got back to the Nisga'a Fisheries office, we celebrated by providing a hot lunch that included a barbecue salmon, corn on the cob, and potato salad!

The Nisga'a Fisheries Fishwheels serve many purposes, and one of the purposes is to use it as a tool for the Nisga'a people to harvest their salmon for the season. (Video of the Nass River Fishwheel <http://www.youtube.com/watch?v=PM5-blVAR7E>). Once the salmon is harvested, the salmon is filleted and smoked in traditional smokehouses in each community. These smoked "Guy-yooks" or salmon jerky, can stay fresh for a whole year! (Photo of Nisga'a Smokehouse with Salmon Jerky <http://www.fotosearch.com/UNS018/u18786419/>). With oolichan, the Nisga'a people make oolichan grease and use it for cooking. (Preserving Oolichan [http://www.livinglandscapes.bc.ca/northwest/oolichan\\_history/preserving.htm](http://www.livinglandscapes.bc.ca/northwest/oolichan_history/preserving.htm)). They also have a special way to preserve the oolichan by drying it out. (Wonderful pictures and information on the Nisga'a Community <http://laxgaltsap.com/>)

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Lesson Summary: In the local community that we were visiting, the eco-needs of the Nisga'a Nation is centered on the K'alii Aksim Lisims (the Nass) River in Gitwinksihlkw, BC, New Aiyansh, BC, and Laxgalts'ap, BC. As well, the eco-needs of the nation in Gingolx, BC, are centered on the ocean and marine life.

It is of great importance for the people of the Nisga'a Nation to provide salmon, oolichan, seaweed, and cockles as a major food source for their people throughout the year. Years ago, the Nisga'a people used to be able to eat abalone; however, the abalone is now listed as a "Species at Risk" and can no longer be eaten.

The K'alii Aksim Lisims (the Nass) River is one of the very few river systems remaining in British Columbia where wild salmon, steelhead, and oolichan are still abundant. It is one of the healthiest and most abundant river systems in the world! Therefore, one of the purposes of the Nisga'a Fisheries is to be a guardian of the Nass River and slow down the process of the fish dying out in this river; to prevent what has happened to other river systems in British Columbia.

For the above reasons, our Nisga'a Youth Conservation Stewardship Program 2009 summer camp chose to go to visit the Nass River in Gitwinksilkw, BC, and ocean in Gingolx, BC. We asked our youth important questions on these field trips.

Richard Bussanich (rb), of LGL Limited Environmental Research Associates (<http://www.lgl.com/>), is a fisheries manager, senior fisheries biologist, and one of the Nisga'a Youth Program 2009 instructors. He posed the following question on the Nisga'a Nation community website: <http://nnkn.ca/?q=node/20895>

## ***What can Nisga'a Youth (Ages 6-30) do to save our fisheries?***

Do you actually believe Nisga'a youth can make a difference in protecting and conserving our fisheries resources?

- We do - kids from around the Nass Valley, Terrace, and beyond will be discovering that we all have talents, regardless of age, and that we can make a difference, together.
- A single drop of water won't fill the sink, but left to drip..., again, and again, and again.... in time, together, all these single drops will overflow.
- Calling all Nisga'a Youth to use your talents, your voice, and your muscle, to guard Nisga'a land and water in your way.

Again, I pose the question;

Do you actually believe Nisga'a youth can make a difference in protecting and conserving our fisheries resources?

Or not...

signed, rb.

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Subject Area(s): Environment and Sustainability Across BC's K-12 Curricula: Health and Career Education, Science, Social Studies

Grade Level: Students 6-12 years old. Can easily be adapted for older ages and grade levels.

Standards: See Below

BC Ministry of Education Curriculum Prescribed Learning Outcomes:

## Career Development:

- Identify types of work that interest them.

## Science:

- Describe marine activities of Aboriginal peoples in BC in each seasonal cycle.
- Describe how marine animals are important in the lives of Aboriginal peoples in BC.
- Describe how marine salmon are harvested and used throughout the seasons.
- Demonstrate awareness of the Aboriginal concept of respect for the marine environment.
- Determine how personal choices and actions have environmental consequences.
- Identify methods of extracting or harvesting and processing BC's resources.
- Analyse how the Aboriginal concept of interconnectedness of the environment is reflected in responsibility for and caretaking of resources.
- Evaluate human impacts on local ecosystems.

## Social Studies:

- Describe ways individuals contribute to their community.
- Describe Aboriginal people's relationship with the marine, land, and natural resources.
- Explain why marine conservation, sustainability, and habitat protection are important.

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## Lesson Objectives:

### Students will:

- Experience first hand how they and the whole community can make a difference by being a guardian and protector of the K'alii Aksim Lisims (the Nass) River, salmon, and oolichan for today and for the future.
- Take the Nisga'a Fisheries boat and ride upstream to visit the Nisga'a Fisheries Fishwheel in Gitwinksihlkw, BC.
- Watch and count the number of salmon that the Fishwheel can catch in each bucket, as it pulls the buckets out of the cold river water. Students will pull the fish traps out of the deep water as well.
- Identify types of careers that may interest them such as: fisheries technicians, biologists, and boat operators.
- Fish with their fishing rods, walk along the river rocks, walk on the dock (if they have a life jacket on), and/or play in the sand while they are on the sandy beach along the riverbank.

## Lesson Scope and Sequence:

One of our central themes for the Nisga'a Youth Conservation Stewardship Program 2009 revolved around, "Marine Conservation and Protection, Abalone Species at Risk, and Biodiversity." We also focused on "First Nations Activism and Science & Technology." We were proud to take the youth to visit one of the Nisga'a Fisheries Fishwheels on the K'alii Aksim Lisims River!

The Nisga'a Fisheries located in New Aiyansh, BC, is one of the world's leading fisheries today. In 2009, the Nisga'a Fisheries ranked as one of the highest quality fisheries along the Pacific Coast when compared with other fisheries in Alaska, British Columbia, Washington, Oregon, and California!

### On the Nisga'a Lisims Government website it says the following:

(<http://www.nisgaalisims.ca/?q=fisheries-and-wildlife>)

#### *Fisheries and Wildlife*

The Nass River flows 400 kilometres from its headwaters at Magoonhl Lisims to the sea at Gingolx. Along the way, it courses through the heart of Nisga'a life and culture. One of the healthiest and most abundant river systems in the world, K'alii Aksim Lisims (the Nass) is the spawning grounds of wild salmon, steelhead, and oolichan. Today, Nisga'a Lisims Government manages the Nass River fishery to preserve the resource, provide for our people, and to support a modern, sustainable fishing industry.

Many of the youth in our program have parents and/or family members that work for the Nisga'a Fisheries. As part of career planning for these youth, it was exciting to take these 6-12 year olds to see some of the fisheries technician, biologist, and boat operator jobs that can be available for them one day in the future! This is all a part of the "Seven Paddles of Our Ocean Canoe": Environmental Stewardship, Teamwork, Self-Confidence, Gratitude, Leadership, Friendships, and Taking Action."

As you use this teacher guide to gain creative ideas to develop your own field trips, may your students be as empowered, motivated, and excited as our students were!

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## Student Assessment:

We completed this program as a ten day summer camp experience for the youth ages 6-12 years old in the Nisga'a community. Thus, we did not have the time to go into more detailed and lengthy student assessments. Please adapt your student assessment to fit your needs if you are in a classroom.

With all their excitement, many youth came up to the parents and instructors to tell us about their experiences on the boat and at the Fishwheel. This was a great time for us to talk, get to know our youth better, and assess what the students were learning in a relaxed atmosphere filled with fresh air and nature! Once we were back in the classroom, we could further talk with the students to debrief and follow up with discussions and interests.

If you decide to visit a river ecosystem on your field trip, the students can:

1. Write in their journals about: the importance of the river, and why they should be a guardian of the river ecosystem.
2. Make a map of the river ecosystem that they visited.
3. Take an inventory of the plants, animals, and other features that they saw.
4. Keep track of this river ecosystem to see how humans affect it. Take notes and observations.

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Lesson Implementation		
Instructional Strategies	Grouping Options	Scaffolds/
Introduce the lesson:	Whole Group	<p>Prepare students for the field trip by discussing with them about the significance of the Nisga'a Fisheries, the K'alii Aksim Lisims (the Nass) River, and the types of jobs that they can enjoy as a career in this field.</p> <p>Explain to the students how the Fishwheel operates, and the function of catching salmon in the buckets of the Fishwheel.</p> <p>Explain the rules of going on the boat, wearing life jackets, and dressing for appropriate weather.</p>
Practice:	Small groups	<p>Divide the class into small groups to take turns to ride the boat upstream to the Fishwheel.</p> <p>The other students stay on the sandy riverbank to fish, walk on the dock, walk over the river rocks, or sit on the sand!</p>
Homework Assignment:		No homework assigned for this day during our summer camp.
Review:		<p>Once back in the classroom, take the time to listen to all the interesting stories that the youth tell about their field trip adventure.</p> <p>If time permits, follow up with any of the above mentioned student assessments.</p>

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<p>Action Project:</p>	<p>Whole Group</p>	<p>Our eco-friendly action project for our field trip was to:</p> <ul style="list-style-type: none"> <li>▪ Become an "Eco-Expert" when learning about the importance of the Nisga'a Fisheries, and how their community is a guardian of the salmon for today and the future.</li> <li>▪ Adopt this watershed by learning about it and helping to care for it.</li> <li>▪ Travel to a close-by destination to ease our carbon emissions.</li> <li>▪ Identify careers in their area that make a difference to the earth and community!</li> </ul>
<p>Application/Work time:</p>	<p>Whole Group</p>	<p>Take the morning from 8:30am – 1:00pm and include your lunchtime.</p> <p>Use another 1 hour session to debrief and listen to the stories from the youth. Use the student assessment suggestions above or make up your own!</p>

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<p>Self-Evaluation and Critique:</p>		<p>The youth were thrilled to catch and count 5-7 large spring salmon in each of their buckets with the Fishwheel. The youth talked about different types of careers they were interested in.</p> <p>The youth felt proud to travel by speed boat down the river, fish with their fishing rods, walk along the river rocks, and play in the soft sand. A few students discovered bear tracks!</p> <p>We brought journals for the youth to sketch while they sat on the riverbank. However, instead of journaling, they all wanted to enjoy the scenery, fresh air, and explorations.</p>
<p>Accommodation Options: See Below</p>		
<p>ELL / IEP Students:</p>	<p>Place these students in small groups where the parent chaperone to student ratio is small enough to give these students any extra support that these students may need.</p>	
<p>Highly-Capable Students:</p>	<p>We assigned these students to take our video documentation and photos with our digital cameras. We discovered that these students felt a wonderful sense of purpose and accomplishment as they acted like young journalists, reporters, and photographers! We now have some great photos and videos for this project from our young youth.</p>	
<p>Management/Organization Tips:</p> <ul style="list-style-type: none"> <li>▪ Letters to the parents/guardians need to be signed for legal purposes to ride on the boat. <a href="C:\Users\user\Documents\Tracey's Documents\NFAbalone2009\extra_resources\Consent form.doc">C:\Users\user\Documents\Tracey's Documents\NFAbalone2009\extra_resources\Consent form.doc</a></li> <li>▪ Organize parent drivers for the field trip.</li> <li>▪ Students need to bring their PFD life jackets, and wear their life jackets at all times on the boat and dock. Students may share their life jackets with other students as they take turns going on the boat.</li> <li>▪ Bring mosquito repellent, and first aid kit.</li> <li>▪ Instructors take student attendance sheet with extra pen/pencil for counting students.</li> <li>▪ Bring snacks and drinks for students.</li> <li>▪ Students are to wear appropriate outdoor clothing such as hats, sunscreen etc. Please see our letter above.</li> <li>▪ Students to write thank you cards to boat operator and fish technicians.</li> </ul>		

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Approximate Time Needed: The whole morning from 8:30am – 1:00pm. We included snacks, and prepared a barbecue salmon buffet lunch back at the Nisga'a Fisheries office!

Prerequisite Skills: Give a general overview of the importance of the Nisga'a Fisheries, how the Nisga'a Fisheries is world known, and the importance the Nisga'a Fisheries has in the Nisga'a community. Point out different types of careers that are available for the students within the Nisga'a Fisheries.

Teach the students about boat and water safety rules. Show the salmon posters on the walls of the classroom to the students. (Available at Fisheries and Oceans Canada.)

Materials and Resources Required for Lesson:

- See "Management/ Organization Tips" above.
- Posters of marine life on the walls of the classroom.

Adopted and other Audio/Visual: none

Supplemental Resources (including Internet resources):

Supplies: See Materials Above

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Technology – Hardware (Click boxes of all equipment needed.)		
<input type="checkbox"/> Computer(s)	<input type="checkbox"/> VCR	<input type="checkbox"/> Projection System
<input type="checkbox"/> Printer	X Video Camera	<input type="checkbox"/> Camera
X Digital Camera	<input type="checkbox"/> Scanner (optional)	<input type="checkbox"/> Video Conferencing
Technology – Software (Click boxes of all software needed.)		
<ul style="list-style-type: none"> <li>▪ See above.</li> </ul>		
Optional Technology Extensions:	<ul style="list-style-type: none"> <li>▪ If funding permits, use underwater cameras to take some photos under the water in the river.</li> <li>▪ Make a slide show with the photos and videos taken from this field trip. Put music to the video slide show presentation.</li> </ul>	