Lesson 6: Collaborative Decision-Making

Overview: Students will learn about collaborative decision-making with regards to the Great Bear Sea region. As an example of collaborative decision-making they will look at moving the location of a "wind farm" from their schoolyard to another place in the community.

Subjects: Science, Language Arts

Suggested Time: 2 classes (45-60 minutes)

*** Teacher Note:** Throughout this resource, additional materials, several images and colour resources are noted with a * in the materials list. These resources are available on the Great Bear Sea USB, or at www.greatbearsea.net.

Materials and Resources:

- Computer, projector and screen
- Chart paper and markers
- Lesson 6 Film Clip:
  - North Coast Development (10 mins)
- Teacher Background – Lesson 6
- 6.1: Skeena River Estuary
- Development Images – (Coal, Container Port, Development Site, Fishing Boats, Kitimat, LNG, Port of Prince Rupert)*
- North Coast Map*

Learning Objectives:

Students will:

1. Learn about collaborative decision-making and how it is an important step when making decisions in the Great Bear Sea region.
2. Understand the value of traditional knowledge and how it contributes to sustainability and planning for the future.

Lesson Context

This lesson will allow students to learn about collaborative decision-making. The students will learn about the levels of government that have responsibility for decision-making for the land (Provincial) and for the water (Federal). In addition, students will start to think about development in the Great Bear Sea and the various partners that make the decisions with input from the stakeholders that live, work or use the region and have knowledge about the resources and the impacts of development for decision-making purposes. Specifically, the students will look at renewable energy in terms of development of marine based wind farms and think about how decisions impact different groups of people living and working in the Great Bear Sea region. There are various activities that students will engage in throughout this lesson, but the culminating activity will be looking at development locations for wind farms in their own community and thinking about stakeholders that should be consulted.

Learning Activities

Activity 1: Development (45-60 minutes)

1. Draw a circle on the board and write the word classroom inside. Ask the students to create a web around the circle of everyone who helps influence the classroom. Discuss how there are many people working together inside and outside of the classroom (teachers, students, principal, parents, other professionals in the classroom, the government, etc.) to ensure it is a good a school year and the students are learning. Everyone has a different role in the classroom and are experts in different areas.

2. There are many people working together to ensure the Great Bear Sea and its resources remain healthy. Have the students brainstorm some of the people working together to protect the Great Bear Sea. Inform the students that the Provincial government is responsible for the land while the Federal government is responsible for the water. Remind the students that 18 First Nations and the Province of British Columbia co-lead a collaborative decision-making process to establish the four area-specific marine plans for the Great Bear Sea with input from stakeholders.

3. Set the classroom up in a 4-corner debate by posting agree, disagree, strongly agree and strongly disagree in each corner. Read the statement “development is a good thing" aloud to the students. Have students move to the sign that reflects their opinions without any discussion. Note how many students are in each corner.

4. Make a T chart on the board and have the students list the pros and cons of “development" on the North Coast. Discuss why students selected their corner. Show the students the **development images*** that have been proposed or

implemented in the North Coast. Continue to add to the T chart.

5. Watch the film clip **North Coast Development**.

6. Discuss the changes to the North Skeena estuary that were mentioned in the film clip. Look at the **North Coast Map*** to see where the estuary is located. Use **6.1: Skeena River Estuary** to discuss and record information:

   - The definition of an estuary.
   - The importance of an estuary.
   - Possible development projects proposed for the North Coast.
   - Implications from development in the estuary.

   See **Teacher Background – Lesson 6** for information on estuaries.

7. Repeat the 4-corner debate by re-reading the statement aloud "development is a good thing". Have students move to the sign that now reflects their opinion. Did their opinion change or not? If opinions have changed, discuss why opinions have changed. Also discuss how different perspectives (examples: developers, scientists, people who live in the community, etc.) could look at this statement in different ways. It is important to plan for sustainable development while protecting ocean health, having economic opportunity, reducing conflicts among marine users and fostering marine stewardship in the Great Bear Sea.

Activity 2: Renewable Energy (45-60 minutes)

1. Write the words **renewable energy** on the board. Discuss with the students their understanding of renewable energy.

2. Highlight the idea of a wind farm. Ask the students if they have seen a wind farm locally or on their travels and why we have wind farms. Explain to the students that wind energy is one of the fastest growing renewable energy sources. Wind farms can be created on land or in the water. Turbines are placed in locations with wind activity. The wind turns propeller-like blades connected to a rotor that spins a generator and creates electricity.

3. Go outside to the school playground and inform the students that it has just been discovered that the "school playground" would be an excellent location for a wind farm. Effective tomorrow the school playground is CLOSED and construction starts! Discuss this announcement with the students. Some discussion questions may include:

   - What are the students' reactions to this?
   - Is this fair? Why or why not?
   - Did the students have input into the decision?

- Did the school have input into the decision?

There are impacts to closing a school and installing a wind farm! It is important in collaborative decision-making that the stakeholders provide input.

4. In small groups, have the students provide recommendations that could be passed on to decision makers. Use chart paper to record the recommendations of other places in the community where a wind farm may be better located. Some discussion points may include:
   - How are you supporting your recommendations?
   - What stakeholders in the community would they suggest be given the opportunity to provide input?
5. Share the recommendations and reinforce the idea that collaborative decision-making through marine planning is an important step to ensuring ocean health and marine uses now and into the future on the North Pacific Coast.

Extension Ideas

- Have the students start to think about impacts both positive and negative of wind farms in one of the regions of the Great Bear Sea. Students could be divided into four groups to examine the marine plans for the region in terms of renewable energy . Use the MaPP website www.mappocean.org and look at areas that have been designated “ok” for renewable energy in each region.
- Head to a green space and think about the impacts of development in this place. What are the impacts to the surrounding ecosystems if development happens in this place?
- Write a letter to the government explaining why it is important to think about development projects critically for communities in the North Coast region.

Assessment Ideas

- Formatively assess students' engagement in individual and group work as well as large group discussion.
- Assess student work from the lesson.

Teacher Background – Lesson 6

In Canada, regulation in relation to environmental issues generally falls within three categories: federal jurisdiction, provincial jurisdiction or a combination of both. Particular scenarios can be quite complicated, but for the purpose of this lesson, it will be helpful for students to make the general distinction that most land issues (as well as land-locked lakes/rivers) are under provincial jurisdiction, while marine and ocean related issues like fisheries, shipping and navigation are generally under federal jurisdiction. You can find more information on the Parliament of Canada website by searching "Federal and Provincial Jurisdiction to Regulate Environmental Issues" (www.parl.gc.ca).

There are many development projects that have been put forth for the North Coast including pipelines, wind farms, refineries, LNG projects, etc. These development projects will create jobs but also have potentially great impacts on the ecosystems. The film clip in this lesson shows how these development projects are being reviewed to inform future decision-making. Marine plans are an important step in the development projects as it gives additional information about the areas where development is being proposed. There are cumulative effects in terms of the past, present and future activities in areas that people care about.

This collaborative government-to-government planning process is innovative and globally significant; there is no other country where a marine plan has been developed by Indigenous and provincial governments. Worldwide, there is great interest in MaPP, particularly learning more about how the planning was done, and what was achieved.

The activities modelled in this lesson are not meant to model the processes used in regions in the MaPP, but engage students in critical thinking skills by focusing on the perspectives of different groups of people that use the resources in the Great Bear Sea. Worldwide, there is great interest in MaPP and learning more about how the planning was done, and what was achieved. The MaPP website is a very useful resource to learn more about the process, watch a video on "10 Things You Need to Know About MaPP", read stories from the First Nations and the MaPP stakeholder members, as well as a research tool for students.

Vocabulary

Estuary: a tidal mouth of a river where the ocean water and fresh water meet and mix together. It is a very rich nutrient area that is also important to provide habitat to plants and animals.

Estuaries are important to animals:

- To make homes
- To have babies and raise young
- To find food
- To stop to rest for those animals that migrate

Renewable energy: energy that is collected from resources, which are naturally replenished in a human lifespan. This includes sunlight, wind, rain, tides, waves and geothermal heat

Name:_____

6.1: Skeena River Estuary

What is an estuary?

Estuaries are important because…

List some potential development projects that have been proposed for the North Coast.

Who and what could be impacted by development in the Skeena River estuary?

What are your recommendations to protect the estuary in the North Coast?