Lesson Plan: Sharing what we Gather: Sharing, Medicinal Plants and Health Sovereignty in Wabanaki Communities

Disciplines: Wabanaki Studies, Social Studies

Grade Levels: 9- 12

Maine Learning Results Addressed:

History, E2. Individual, Cultural, International, and Global Connections in History: Students understand *historical* aspects of the uniqueness and commonality of individuals and groups, including Maine Native Americans.

LD 291 Concentrated Area of Study:

Cultural Systems 2: Major Concept: Wabanaki Culture: Ways of life and cultural practices

Cultural Systems 3: Sovereignty

History 3: Major Concept: Sustainability

Maine Learning Results Assessed:

History E2.a. Explain how individuals, families, and communities share both common and unique aspects of culture, values, and beliefs.

LD291 History 3

Essential Question 1: What strategies did/do the Wabanaki used/use and adapt to their culture while being impacted by the changing population around them?

LD291 Cultural Systems 3: Sovereignty

- focus on cultural sovereignty

Lesson Summary: Sharing is a core value of Wabanaki communities. This 40 minute lesson plan will introduce the value of sharing medicinal plants as an example. The 80 minute unit will also introduce students to the concept of health sovereignty and issues that affect it, including traditional ecological knowledge (TEK), bioprospecting, and intellectual property rights.

Goal: To introduce students to the concept of health sovereignty and the value of sharing in Wabanaki communities.

Learning Objectives:

40 minute lesson. Students will be able to:

- Describe the importance of sharing in Wabanaki communities (strengthening interpersonal relations and enabling the continuity of cultural practices)
- Provide examples of sharing in their own lives
- Demonstrate that sharing includes not just material objects (like plants), but also ideas and knowledge
- Explain how sharing of plants and knowledge contributes to health in Wabanaki communities.

Additional objectives for 80 minute lesson:

- Describe the concept of health sovereignty
- Identify and synthesize issues that may compromise health sovereignty
- Analyze the relationships between sharing and traditional ecological knowledge

Materials Needed

- "What community members say about sharing" handout sheet (and a projector)
- Video about sharing (accessible online)
- Health sovereignty hand out sheets (4)
- Large sheets of paper and markers for breakout group

Before Class

(for 80 minute version) Break the class up into four groups, and assign each group a different handout sheet about a topic related to Native American medicinal plant use and health sovereignty. The four handouts in order are: 1) Health Sovereignty, 2) Medicinal Plant Knowledge, 3) Bioprospecting, and 4) Intellectual Property Rights. Explain to the students that they will be doing a group exercise in class the next day based on these readings- stress how important it is that they come prepared to participate and report back to the whole class.

Activities (40 minute lesson)

Watch the Conservation Bridge video on the importance of sharing medicinal plants in Maliseet communities. (15 minutes)

- Afterwards, ask students to share their thoughts or ask questions about the video (5 minutes)
- As a class, go through some of the case study questions which accompany the video (10 minutes)

Assessment

What is the community sharing?

- Prompt students to suggest general reasons why people share (without asking for money in return)
- Project the 'What community members say about sharing' Handout sheet on the board so the whole class is able to read it
    - Ask them to suggest reasons why Wabanaki community members share, based on the quotes.
    - What are people sharing?
        - it is not just actual plants, people are sharing knowledge, stories and experiences. Why is this important?

        - for continuity of practice
        - to share cultural history
        - to strengthen ties between community members
        - all of these reasons contribute to cultural or health sovereignty
    - Ask for reasons why people wouldn't share.
        - are there specific people that people might not feel comfortable sharing with?
            - outsiders, people who might exploit their knowledge
        - Need to have relationships based on trust

Additional Activity/Assessment for 80 minute block or second lesson.

Jigsaw Learning Activity: in this activity, students will be broken up into groups. The night before class, members of each group will be given a different handout sheet about a topic related to Native American medicinal plant use and health sovereignty. The four handouts in order are: 1) Health Sovereignty, 2) Medicinal Plant Knowledge, 3) Bioprospecting, and 4) Intellectual Property Rights. The bioprospecting and intellectual property rights handout sheets are general, and the information within can be related to Maine tribes. When students come to class, they will meet in their groups and have a brainstorming session in which they will decide on the most important points of their reading to share back with the class. The class then comes together, and has a report-out (in the order listed above), where each group shares the main point of their readings. As a class, the students will then synthesize the main points, guided by prompting questions. If time allows, a second round of inquiry will assess how well students learned from each other.

Suggested time breakdown for activity:

- Brainstorming session for groups- what are the most important points of the reading to share? (10 minutes)
- Regroup, report main points to class (5 minutes/group=20 minutes)

Assessment

- Assess learning by asking synthesis questions to the whole class (10 minutes)
- Suggested Questions for Synthesis:
    - Think back to the video we recently saw featuring Maliseet/Mi'kmaq communities and sharing. How does sharing relate to health sovereignty?
    - Why would some people not want to share their knowledge about plants with 'outsiders'?

- How do you think health sovereignty would be affected if people within a community lost all their knowledge about medicinal plants? How could they get knowledge back?
- What do community members have to do to ensure that future generations learn about medicinal plants?
- Do you think knowledge can or should be owned?

Exercise Evaluation

Prompt students to evaluate the effectiveness of the jigsaw technique. How well did students share and learn from each other?

Background Information

Sharing is a core value in Wabanaki communities. This lesson plan will explore how sharing of medicinal plants enhances community ties, increases access to culturally-appropriate medicines, and promotes the continuation of cultural practices. In Mi'kmaq and Maliseet communities, not everyone that uses medicinal plants knows how, or is physically able to gather plants from a variety of different habitats. Knowledge about plants is distributed across and between communities. Some people only know how to use or harvest one or two plants, while other community members know about different plants. Their knowledge is complementary. In addition, community members assume different roles . Certain people are considered to be *medicine gatherers*. They know where plants are, when and how to harvest them. Other members of the community are *medicine makers*. They ask plant gatherers to bring them the plants they need to make medicines. These medicines are then shared within and across communities with *medicine users*. Taken together, the sharing of knowledge and plants contributes to cultural sovereignty.

Interviews with community members document webs of sharing within and across Mi'kmaq, Maliseet and other Native communities. Interviewees describe:

- Situations in which youth learn to harvest medicinal plants, which they then share with elders, creating intergenerational ties.
- Distributing harvested plants and prepared medicines to a variety of community members, who then share them with other people. This is especially true for sweetgrass.
- People stressing the general importance of sharing in their lives (beyond plants) and for cultural activities.
- Workshops and other get-togethers in which people share knowledge about plants.

What community members say about sharing

"Sharing is a way of life"

Sharing for survival

"When I was growing up, her [referring to his wife] father was a hard working lumberjack and hunter, and when he used to hunt a moose or deer, he always used to send some meat to our family because my father died when I was 12 years old, and my mother had 13 kids. I'm the 12th child, so, we had a hard time. She couldn't buy food or none of that stuff, so we depended on others to help out, so sharing was quite common back then... We like to share whatever we can, you know. We ain't got much to share now, but..."

Sharing more than plants

"It costs a lot of money to make medicine. If you want to make St. Johnswort, you have to buy maybe five bottles of olive oil, which over sixty-something dollars, so, I don't usually ask people for money, but I say 'I'll teach you how to make it. You can get your oil and all that stuff, and that way you don't have to pay anybody, you can do it yourself, and you'll know how to do it.' So sharing information instead of sharing what I already made, unless they don't want to do this. I'll give them a little bottle of St. Johnswort or something. They'll bring me a little tobacco, you know, I'll make offerings with that. That's the way I share."

Sharing with extended 'family'

But we collected this plant last year, we wanted a little bit for us, but you always collect extra, right so you can give it away. In fact, I just gave a piece away yesterday.

Here is a story from one community member that highlights multiple benefits of sharing. Can you pick out what they are?

"We ran this alternative-setting school that was culturally-based…One of the lessons, part of science was to go pick this medicine. So we took six boys out one morning. It was in the early part of November, cold as heck. Raining, the boys were complaining. I said 'boys, this medicine is going to help this cold weather. If you get sick, you'll have medicine.' And plus I said we're picking this for the elders. So when we got out there, and the biggest complainer on the way out there, once he got picking and stuff, man we couldn't stop him. He was addicted. He was following those roots and cutting them and washing them, and then finally when we got him back to our little school that we had there we cleaned them and dried them out on the table, and within you know, a few days they shrunk and got hard so we cut them up and put them in bags, and we counted all the elders that we needed to deliver them to.

So, we took one day and we just went around the community and we stopped at the house of this one man. I remember one of the young men, he went in there, and he was in there for twenty minutes. I said 'go in and say this is medicine we picked for you, and we're going to drop it off to you'. So we patiently waited for him, he finally came out and said 'Man, he was crying. He said nobody ever gave him medicine before. He was so moved, and he wanted to pay me. I said no! This isn't about paying, this is about giving gifts to the elders. So anyway, he just told me to sit down and he told me some stories'

But you wouldn't believe, the elders were so moved that we picked that medicine for them, and the boys [from the school] worked up at bingo too, as a part time job, and they would come up to me and say 'You wouldn't believe all these elders that come to bingo and say 'Hi! Thank you so much for that medicine!' They never talked to me before.' I told them, we connected to them."

Medicinal Plant Knowledge Handout Sheet

What is Traditional Ecological Knowledge?

Traditional Ecological Knowledge (TEK) is:

> **Adaptive ecological knowledge developed through an intimate reciprocal relationship between a group of people and a particular place over time.**
>
> **TEK includes** detailed local knowledge about local topography, climate and resources, biotic and abiotic characteristics, animal and plant life cycles and other environmental features.

What are some characteristics of TEK?

- It is cumulative: TEK represents knowledge about plants, animals and ecological processes that have been developed by people over generations.
- It is dynamic: TEK is not fixed in time; it is constantly adapting and evolving. As environments change, people's relationships and understanding of them also shift.
- It is hands-on: TEK is developed by participating in and observations of hands on activities, such as hunting, fishing and plant gathering.
- It is place-specific: Unlike general scientific principles, TEK is based on relationships people form with a certain place and its plant and animal inhabitants.
- It is passed on from generation to generation: TEK is rarely written down. Instead, it is taught to younger generations through taking them out for firsthand experiences. TEK is also shared through stories, songs and dance. In Native American communities, elders are often critical holders of TEK.

What are some examples of TEK?

- Iñupiat hunters in northern Alaska understand the different phases of sea ice throughout the year, including when the ice is safe to travel on. They also observe changes in the ice from year to year, including thinner ice and earlier spring melting.

- Maliseet and Mi'kmaq plant gatherers in Maine and New Brunswick know which times of year certain plants are available. Specifically, through years of gathering, they know when to expect plants to be flowering, and berries to be ripe.

How is TEK lost?

- In many Native American communities, some TEK has been lost through social pressures to assimilate with American and Canadian culture. One of the biggest causes of loss of TEK in both Maine and New Brunswick was Native American children's experience in residential schools. From the early to mid 20th century, many Mi'kmaq and Maliseet children were taken from their homes and placed into residential schools. At school, children were not allowed to speak their native language, and were often severely punished for doing anything that was too "Indian". Native languages are a valuable source of TEK. Place names in Mi'kmaq or Maliseet language often describe the natural features of an area. For example, the Maliseet word 'Meduxnekeag' refers to a river that is 'rocky at its mouth'. As a result, several generations of children lost the ability to speak their native tongue, which is a valuable source of TEK. In addition, because children went away to school, they were not home to participate in traditional activities where TEK is learned, such as hunting, gathering plants, and learning cultural customs. As a result, when these children got older, some could not pass on important TEK to their own children.

Traditional Ecological Knowledge of Medicinal Plants

Availability of local medicinal plants does not by itself ensure that people will be able to use them: knowledge is also necessary. In order for Maliseet and Mi'kmaq people to use plants, members of communities must have complex knowledge that incorporates botany, ecology, traditional healing and plant preparation techniques. This knowledge reflects thousands of years of interactions between people and their ecosystems.

Botany

Community members have to be able to correctly identify the plant they are interested in. Some beneficial plants may have look-alikes that are poisonous, so community members have to know the physical characteristics that distinguish the species they are interested in from others. Mi'kmaq and Maliseet people have used over 100 different species of plants, shrubs, trees and fungi in traditional medicine.

Ecology

People must know where plants grow, which involves being able to discern between different habitat types. Some plants prefer wet areas along rivers and in marshes. Others are found in old fields, while others like moist, rich woods.

Sustainable Harvesting Practices

In order to ensure that a supply of plants is available for next year, plant gatherers must know how to collect plants sustainably. This involves a variety of techniques that are specific to the plant being used. Before picking plant parts, community members must know what time of year is best to collect. The optimal time of year is when medicines are considered to be strongest in plant part of interest. This timing may also be when it causes the least amount of damage to a plant population. For example, some plants are not collected until after they flower and set seed, allowing the plant to propagate future generations.

Traditional Healing

After finding a plant, community members need to know which part of the plant is useful. This differs from plant to plant, and for some plants, multiple parts including roots, flowers, leaves, fruit are all used.

After collecting a plant, community members must have knowledge about use, preparation and storage. For example, they must understand which ailments a plant treats. Then a healer, or another community member needs to have

knowledge about how to effectively prepare a treatment with the plant, which may include a tea, salve, and blending it with other plants. If plants are not used right away, then understanding how to store them for future use is extremely important. This is especially so in areas like northern Maine, where winters are long, and, aside from tree parts, fresh plant material is not available.

Bioprospecting Handout Sheet[1]

For years, scientists have tried to recreate the complexity and intricacy of natural chemical products in the laboratory setting. And, over the past decade, they have largely been successful. Yet, the most complex, elusive, and valuable chemicals remain hidden in nature, shadowed by our limited understanding of how nature produces them. It is precisely the value of these natural chemical compounds that compels scientists to leave their labs and investigate the mysteries of nature; mysteries that can be found amongst the world's biological resources. Whether the genetic usefulness of these resources is synthetically replicated or simply extracted from the resource itself, nature still remains as our greatest teacher and one of the greatest tools for the development of pharmaceuticals and other scientific discoveries.

This concept of using biological materials for an industrial or synthetic use is the root of bioprospecting. According to Eric J. Mathur, bioprospecting is "the exploration of biodiversity for commercially valuable genetic and biochemical resources." In theory, bioprospecting provides a powerful method to research valuable drugs, crops, and compounds while learning from and gaining an appreciation for the world around us. Between January 1981 and June 2006 an estimated 47% of cancer drugs and 34% of small molecules were developed from natural products directly or derived from them.

Despite its many positive aspects, current bioprospecting practices often degrade into biopiracy, or the "unauthorized extraction of biological resources and/or the patenting on processes based on traditional knowledge from indigenous communities." Biopiracy manifests as companies searching for natural resources fail to recognize the claims of indigenous people, to provide compensation for extracted natural resources, or to preserve the bioprospecting site. One such example of this biopiracy is the case of cyclosporin, which is a drug that is used to

[1] This information is taken from a website created by Princeton students Amy Olivera, Russell Dinkins and Matt Landry. The website can be found here: Http://www.princeton.edu/~aolivero/bioprospecting/home_sweet_home_page.html

treat infections in organ-transplant patients and garners an annual profit of $1 billion. The soil samples from which the drug was produced came from Norway, yet Norway has never received any form of compensation for it.

HELPFUL TERMINOLOGY

Bioprospecting- "the exploration of biodiversity for commercially valuable genetic and biochemical resources."

Biopiracy- "the unauthorized extraction of biological resources and/or the patenting on processes based on traditional knowledge from indigenous communities."

Traditional Knowledge- the knowledge of indigenous people about the culture, nature, climate, and beliefs of a given region.

Benefits sharing- agreements between researchers, their institutions or companies, and a source country that return benefits to the source country when the results of cooperative research lead to the development of something that is commercially valuable.

Concessions Contract- another name for a benefits sharing agreement

Source country- The country from which natural resources are extracted; also known as a host country.

Why is bioprospecting so controversial?

In theory, bioprospecting should produce mutual benefits for both the research entity interested in bio-resources and the host country that contains them. Namely, the research of companies can benefit from the natural resources of a host country while the host country benefits from increased economic activity due to the presence of research infrastructure. In reality however, the clarity of such

benefits is often muddled by the lack of regulation in the field of bioprospecting, international disparities in patent laws, and the presence of companies that fail to respect the biodiversity and culture of a host country. Thus, bioprospecting oftentimes incurs an imbalance in the benefits between the research entity and host country and induces injustices towards developing nations. Nevertheless, proponents of bioprospecting hail it as an indispensable tool in scientific, economic, and societal enhancement.

Outlined below are some of the most common reasons invoked to support and denounce bioprospecting. In many cases, supporters of bioprospecting base their claims on quantitative development such as the creation of new drugs, while opponents of bioprospecting enact arguments of ethics to support their claims.

THE GOOD...

1. Many valuable medicines are the products of bioprospecting.

Case-in-Point: In fact, the widely-used pain reliever aspirin was isolated from the bark of the Willow tree. Refer to the table on the homepage to see a more extensive list of some of the most common drugs that have been derived from natural products.

2. Bioprospecting is beneficial, and in some cases necessary, for scientific development.

Case-in-Point: For years, scientists were stumped by how to produce a charge reversal of the carbonyl functional group. If such a method was developed, scientists would gain incredible advantages in producing organic compounds. Through researching the bio-molecule vitamin B1, researchers gained an understanding for the reactivity of thiazole and created an extremely important synthesis method.

3. It is economically beneficial to research firms and developing countries.

Case-in-Point: In 1985, Princeton University Professor Emeritus Edward C. Taylor developed Alimta - a drug isolated from the wings of butterflies. In 2004, the U.S. Food and Drug Administratoin approved Alimta as a treatment for malignant pleural

mesothelioma, a deadly form of cancer. The royalties from Altima completely financed the construction of Princeton's new, state-of the-art chemistry laboratory, which is the second largest academic building on campus. To this day, Alimta continues to produce millions of dollars of profit for Princeton University.

4. **Bioprospecting creates social benefits for countries: better educational opportunities and employment opportunities.**

Case-in-Point: Researchers at the University of California Davis isolated the blight-resistant gene Xa21 from a wild rice in Mali. Realizing the benefits of Xa21, UC Davis filed a patent for the cloned gene. After this, UC Davis entered into a benefits sharing agreement with the stakeholders in Mali, providing funding for fellowships to agriculture students and researchers from Mali.

5. Bioprospecting is a powerful conservation tool.

Case-in-Point: Bioprospecting reveals the masked value of the natural resources contained within the bio-diverse regions of the planet. As companies, universities, and governments begin to recognize the worth of such resources, a large incentive is placed on protecting them at the local, national, and international level. Thus, bioprospecting may be viewed as a tool for conservation of our natural habitat. In 1991, pharmaceutical company Merck & Co. entered into a benefits-sharing agreement with INBio, the National Biodiversity Institute of Costa Rica. Under this agreement, Merck & Co. paid $ 1.135 million for the extraction of resources along with an undisclosed share in royalties from any product produced from the resources. As part of the agreement, 50% of the royalty funds and 10% of the extraction funds INBio recieved went to the conservation of national parks.

... AND THE BAD

1. Bioprospecting forces underdeveloped countries to become mere suppliers of natural resources to wealthy nations.

Case-in-Point: In the 1950's, pharmaceutical giant Eli Lily & Co. discovered that two anti-cancer agents, vincristine and vinblastine, could be created from the rosy periwinkle plant. Quickly, Eli Lily & Co. commercialized the product that fabricated a yearly income of over $100 million dollars. However, as demand for vincristine

and vinblastine outpaced the supply of the rosy periwinkle in Madagascar, Eli Lily & Co. began to cultivate it themselves in Texas. This tremendously hurt Madagascar's economy, which had grown reliant on its sale of the rosy periwinkle.

2. The collection techniques of bioprospectors are harmful to the natural biodiversity of a region.

Case-in-Point: In 1987, researchers collected a one-kilogram sample of twigs and bark from a Malaysian gum tree. After four years of testing and analysis they isolated a compound that prevented the spread of the HIV-1 virus. Upon their monumental discovery, the researchers tried to locate the tree to classify it and extract more samples for testing. During their search, they discovered that their collection technique had destroyed all such trees in the area and, without a means to locate more, the compound was lost forever.

3. Indigenous people are not recognized for their traditional knowledge

Case-in-Point: In many cases of bioprospecting where traditional knowledge is an issue, controversy and debate often arise concerning the definition of prior knowledge. In the case of the Neem tree, the difference in what constituted prior knowledge fueled a fierce legal suit between U.S. companies and the Indian government. The Neem Tree, deemed by indigenous people as the "Heal All", is a drought-resistant tree that has been used for over 2,000 years in its native India for a wide variety of medicinal uses, such as its skin-enhancing, anti-diabetic, antiviral, contraceptive, and sedative effects. Traditional knowledge of the Neem Tree was so ubiquitous that the Indian Central Insecticide Board deemed it unnecessary to register the tree's products under the Insecticides Act of 1968. However, U.S. companies began to patent extraction techniques and products of the Neem Tree as traditional Indian knowledge did not legally constitute prior knowledge based on U.S. patent law. Luckily, the case of the Neem Tree did not end with exploitation of indigenous knowledge. In 2000, the European Patent Office nullified U.S. patents regarding the Neem Tree.

4. Even if compensation is received, natural resources are grossly undervalued and exploitation of developing countries by developed countries remains commonplace.

Fact: Developed countries often exploit developing countries for their bio-diversity. This exploitation often encompasses the theft of traditional knowledge and the failure to compensate source countries for their natural resources. In fact, it is estimated that pharmaceutical companies return less than .0001 % of the profits generated from drugs based on the traditional medicines of indigenous peoples.

5. Bioprospecting can affect delicately balanced traditional economies.

Case-in-Point: The demand for Neem Tree products by US companies caused the price of Neem Seeds to increase 10 fold in 20 years. This increase in the price of Neem seeds turned a traditionally free resource into expensive one, which forced local users to compete for the seed with pharmaceutical and research industries. As the local farmer could not afford the price that these industries could, North Americans effectively funneled the Neem seeds from the indigenous people of India and into the U.S. pharmaceutical market.

Intellectual Property Rights Handout Sheet

What is Intellectual Property?

Intellectual property (**IP**) is a legal concept which refers to creations of the mind for which exclusive rights are recognized. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs. Common types of intellectual property rights include copyright, trademarks, patents, industrial design rights, trade dress, and in some jurisdictions trade secrets.

How are Intellectual Property Rights related to Traditional Knowledge?

Often, indigenous traditional knowledge systems contain a rich understanding of plant, crop and tree species, medicines, animal breeds, and local ecological and biological resources. They may also include useful technologies and adaptations to local environments. This knowledge has been created by communities over generations. As the awareness and use of traditional knowledge continue to increase in mainstream policy and medical fields, so do the incidences of misuse and misappropriation. Image rights are violated when Native American and First Nations designs are reproduced for sale without authorization or recompense. Some research and pharmaceutical companies have applied and profited from traditional knowledge of natural resources, such as medicinal plants, without offering any compensation to the communities that are custodians of such knowledge.

Examples of Intellectual Property in Maine include:

Artwork & Symbols

Fancy baskets made by master basketmakers Fred Tomah, Maliseet (left) and Jeremy Frey, Passamaquoddy (right).
Images from abbemusem.org

Medicinal Plant Knowledge

Highbush cranberry, a medicine used by Wabanaki communities in Maine

Why Protect Traditional Knowledge?

1) **Securing cultural heritage.** For indigenous people such as members of First Nations and Native Americans, the rationale for protecting traditional knowledge centers on questions of fundamental *justice* and the ability to protect, preserve and control one's cultural heritage.

2) **Contributions to society.** Non-indigenous people may also benefit from the fair use of traditional knowledge, because such knowledge has much to offer modern society. It is being used increasingly to assist policy-making in many areas: food and agriculture; culture; human rights; resource management, sustainable development and the conservation of biological diversity; health; trade and economic development. In some parts of Canada, for example, traditional ecological knowledge is being married to western scientific practices to improve environmental impact assessment processes and resource management, as well as genetic and medical research.

Potential Misuse of Traditional Knowledge: Major Areas of Concern

First Nations groups in Canada have highlighted five principal areas of concern with regard to the protection of traditional knowledge and practices:

- Unauthorized copying of works by First Nations groups and communities
- Infringement of copyright of individual artists
- Appropriation of First Nations themes and images
- Culturally inappropriate use of First Nations images and styles by non-First Nations creators
- Expropriation of traditional knowledge without compensation

Limitations of Intellectual Property Rights in Protecting Traditional Knowledge

1) Requirements do not recognize originality of traditional knowledge. The difficulty experienced by indigenous peoples in trying to protect their traditional knowledge under intellectual property (IP) rights law stems mainly from its failure to satisfy the requirements for protection under existing IP law. For example,

intellectual property must be new, original, innovative or distinctive to qualify for protection. These requirements make it difficult for traditional knowledge – generally handed down from generation to generation – to obtain IP protection.

2) Traditional Knowledge is often collective. From a Native American/First Nations perspective, the emphasis of the existing western intellectual property rights regime on *individual* proprietary rights does not address the collective nature of traditional knowledge. Because western IP law is based on individual property ownership, its aims are often incompatible with, if not detrimental to, those of traditional communities. For many traditional communities, intellectual property is a means of developing and maintaining group identity and survival, rather than promoting individual economic gain.

3) Current Intellectual Property Laws can put communities at a disadvantage. Another key concern shared by indigenous peoples worldwide is that the present intellectual property rights regime favors multinationals and other non-indigenous interests. Registering and defending a patent or other intellectual property right can be extremely *expensive*, and effectively limit its availability to the vast majority of indigenous communities, primarily in developing countries. In this way, the existing intellectual property rights regime is seen to help corporate interests and entrepreneurs lay claim to indigenous knowledge without appropriate acknowledgement or compensation for the communities who have developed that knowledge.

How are People Protecting Traditional Knowledge?

Protection of traditional knowledge has taken two approaches. Some countries have enacted specific legislation establishing minimum standards for the recognition and protection of traditional knowledge. In most jurisdictions, however, traditional communities have employed existing legal tools (e.g., contracts, licensing agreements) and intellectual property rights law to try to protect their traditional knowledge – albeit with mixed success.

Establishing databases as a tool for the defensive protection of traditional knowledge has received increasing attention. In June 2002, the World Intellectual

Property Organization examined the usefulness of TK databases as a means to defeat claims to patent traditional knowledge by parties other than the holders themselves. While there appears to be considerable support for this option, there is also considerable concern regarding "costs, access and use of the database, and the protection of the contents of it." The advantages and difficulties of using such databases require further discussion and debate. The Tokyo-based United Nations University has been strongly critical of TK databases and has recommended that, unless these databases are confidential repositories of TK, they will do little to prevent the piracy of that knowledge.

In Canada, effective domestic legislation that clearly protects indigenous traditional knowledge has not yet been adopted. It falls directly upon First Nations communities, therefore, to ensure necessary measures are taken to protect their traditional knowledge. While First Nations communities have historically made limited use of Canadian intellectual property law to protect their tradition-based creations, there are a number of cases where it has been used successfully.

Materials for this handout sheet were obtained from the Parliament of Canada website
"Indigenous Traditional Knowledge and Intellectual Property Rights"
http://www.parl.gc.ca/content/LOP/ResearchPublications/prb0338-e.htm