



HARVESTING THE WILD

Lesson 2: Environmental Justice in the Woods

Grade level: 9-12

Background Information:

People have always relied on the Wild Things the land provides for their existence. Non-timber forest products (NTFP's) have recently seen resurgence in popularity and as a result, a variety of new pressures on the management of public lands have developed. Non-timber forest products have become a cornerstone of the economy of some small towns and ethnic groups and provide some alternative to the use of our national forests for timber. With the current volume of production come new pressures and responsibilities. As the government tries to regulate harvests to protect species, native American tribes demand that ancient treaties promising them the bounty of the land be honored. While many wildcrafters understand the need for natural systems to be left in equilibrium for sustainability, others, especially those with a lot of time and money invested in the harvest, rapidly overpick areas causing great environmental damage.

In this activity, students will learn about the concept of the Tragedy of the Commons and they will apply it to national forest issues in the Northwest. They will then adopt a roll of one of the players in the wildcrafting debate, argue their sides, and will work together to create a forest management plan allowing people to make a living while using sustainable harvesting techniques.

Content Standards:

This lesson addresses the following Oregon State Content Standards:

- Economics: Understands the Economic concept of Scarcity
- Economics: Understands that trade-offs and opportunity costs are decisions that can be measured in terms of costs and benefits.
- Economics: Understands the concept of supply and demand
- Geography: Understand how humans affect the physical environment
- Geography: Understands how differing points of view, self-interest, and global distribution of natural resources play a role in conflict over territory.
- Geography: Understand the geographic results of resource use and management programs and policies.
- Social Science Analysis: Understands an event, issue, problem, or phenomenon from multiple perspectives.
- Social Science Analysis: Identify, compare, and evaluate outcomes, responses, or solutions, then reach a supported conclusion.

Extension Web Sites from PBS:

- **The Conquistadors - Indigenous people in the modern world**
<http://www.pbs.org/opb/conquistadors/teachers/teachers.htm>
Debate the pros and cons of the Makah Indian people of Washington State being allowed to practice their traditional whale-hunting and develop generalizations about the rights of indigenous people in the modern world.

- **Journey into Amazonia – World Trade Protests, why all the fuss**
http://www.pbs.org/journeyintoamazonia/teacher_world.html
Students research and debate conflicts between indigenous people and multinational corporations.

- **American Field Guide – Salmon Versus Dams**
http://www.pbs.org/americanfieldguide/teachers/salmon/salmon_sum.html
Students will learn about the debate surrounding the issue of salmon protection and dam removal and participate in a mock council meeting to decide the future of the Elwha River.

- **American Field Guide – Economic Use of Public Natural Areas**
http://www.pbs.org/americanfieldguide/teachers/natural_areas/natural_areas_sum.html
Students examine a variety of examples of the public controversy between the use of public natural areas for economic activities such as ranching and logging and efforts to protect natural areas from development for future generations.

- **Journey into Amazonia – The Rainforest, Raw Materials, and You**
http://www.pbs.org/journeyintoamazonia/teacher_raw.html
Learn about sustainable resources and identify products made from rainforest raw materials.

Activity 1: The Tragedy of the Commons

Time allotted

One 45-minute class period

Materials

A copy of “The Tragedy of the Commons” for each student

Objectives

- Students will describe the trade-offs associated with using public lands for material resources using the model of the Tragedy of the Commons.
- Students will generate examples illustrating the Tragedy of the Commons to emphasize the variety of ways humans are impacting our local environment.
- Students will distinguish between resource issues that are related to depletion of public lands and those that are on private lands.

Teaching Instructions

1. Distribute or describe the passage from ‘The Tragedy of the Commons’ by Garrett Hardin. Ask students to read it.
2. Discuss to be sure they understand how the Tragedy of the Commons relates to public lands. Emphasize the point that each additional animal (in the example given) gives the individual a positive gain of one while the negatives are spread among all concerned persons.
3. Ask students to describe examples of the tragedy of the commons. Discuss resources that are public resources that are being overly harvested by people. Have students cite some examples that are NOT tragedy of the commons examples to help them distinguish the difference. Encourage them to debate.
4. For more information and background on the Tragedy of the Commons, visit <http://members.aol.com/trajcom/private/trajcom.htm> for a series of related essays.

Activity 2: The Tragedy of the Commons in Oregon

Time allotted:

One to three 45-minute class periods

Materials:

A copy of the Oregon Story Video “Wildcrafting”

Objectives

- Students will develop a sense of place by learning more about local public resources.
- Students will develop an appreciation for biodiversity by describing a variety of special forest products.
- Students will identify conflicts and issues associated with the battle between economic gain and sustainability.
- Students will appreciate the effort required for sustainable harvests by studying examples where it works.

Teaching Instructions:

1. Remind students of the tragedy of the commons from activity 1.
2. Watch the Oregon Story: Wildcrafting Video
 - If time permits watch the whole video
 - For an abbreviated version, watch the segment on the harvest of Salal for the floral industry (start when you hear “And then there’s Salal, it’s all over Oregon...” and end after hearing “So the leasing business continues”).
3. Discuss:
 - The different ‘wildcrafting’ markets. What are they? What impact do they have on the land.
 - Who is harvesting the wild things?
 - Are any examples of The Tragedy of the Commons?
 - Which are not? Why?
 - What is the difference between ones that are and the ones that aren’t?
 - How have people worked to create sustainable harvests?

Activity 3: Environmental Justice in the Woods

Time Allotted

2-3 45-minute class periods

Materials

Student handouts – copy two-sided introduction and instructions for all students. Then copy student dossiers so that the seven roles are evenly distributed in your class. Each student should receive a dossier about one of the 7 roles.

Objectives

- Students will develop an understanding of a conflict between the economic needs of society and natural resources by debating a land-use issue
- Students will be able to describe opposing points of view in a major controversy.
- Students will work in small groups to understand a perspective relating to the issue of wild harvesting for private economic gain on public property.
- Students will use roll playing to explain a perspective regarding the issue of wild harvesting on public land to a larger group.
- Students will build consensus to try to come up with a solution to the problem of private economic gain from public land.

Teaching Instructions

Overview: Students will adopt roles of the different players in the debate over the use of public lands to harvest special forest products. Each student group will develop a stance and write a speech based on the views of the person they represent. They will then choose a spokesperson that will present their views to the group. Once the group has heard all the views, they will work together to try to develop a plan to allow sustainable harvesting or special forest products in the future.

First Day

1. Hand out student dossiers. Students will read some of the main points associated with the character that they represent. Have students imagine that they are that person. How would they express that person's needs and views? Students should spend 20 minutes writing a page in the voice of that person expressing his or her needs and desires for the forest. Students should be welcome to bring in their own opinions or knowledge from outside sources as long as it is consistent with the views of the person they are representing.
2. Once each student has had a chance to think about their position, have all students in the same group (example, all forest biologists) meet to share their writing. Students should jot down ideas that other people in their group might bring to the meeting that help support their arguments. Students should use their original writing plus ideas gained during the group discussion to shape a presentation for an economic development council.

Second Day

1. Students should then divide into groups containing one of each of the different players. There should be 6 members in a group including:
 - Latino pickers
 - Warm Springs tribal elder
 - Logging company representative
 - Forest biologist
 - Commercial producer
 - Small business owner

(Note: Any students who were absent the first day might be assigned to different large groups to act as recorders, writing down the fundamentals of each argument on a large board, chalkboard, or overhead. These students might write a summary of the whole argument in lieu of the original writing to make up for the missed assignment.)

2. Students should take turns going around the small circle to describe their point of view. Other students should listen and maybe take notes during each presentation. They should hold questions until after all the presentations have been given.
3. Once all the presentations have been given, students should start to discuss how they might reconcile all the differences. They will find that they have each been given additional information in their dossiers that might help them during this phase of the discussion.

Student Handout The Tragedy of the Commons

Use With: Activity 1 – The Tragedy of the Commons

From "The Tragedy of the Commons," Garrett Hardin, *Science*, 162(1968):1243-1248. full text available on the web at <http://dieoff.com/page95.htm>

The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility *to me* of adding one more animal to my herd?" This utility has one negative and one positive component.

1. The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly + 1.
2. The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsman, the negative utility for any particular decision-making herdsman is only a fraction of - 1.

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit -- in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

<http://dieoff.com/page95.htm>

"The Tragedy of the Commons," Garrett Hardin, *Science*, 162(1968):1243-1248.

Student Handouts

Use With: Activity 3 – Environmental Justice in the Woods

Introduction

People have always relied on the Wild Things the land provides for their existence. Non-timber forest products (NTFP's) have recently seen resurgence in popularity and as a result, a variety of new pressures on the management of public lands have developed. Non-timber forest products have become a cornerstone of the economy of some small towns and ethnic groups and provide some alternative to the use of our national forests for timber. With the current volume of production come new pressures and responsibilities. As the government tries to regulate harvests to protect species, native American tribes demand that ancient treaties promising them the bounty of the land be honored. While many wildcrafters understand the need for natural systems to be left in equilibrium for sustainability, others, especially those with a lot of time and money invested in the harvest, rapidly over pick areas causing great environmental damage. Non-timber forest products include a wide range of natural goods produced in the wild. There are major markets for several of these items including the following examples, important in the Pacific Northwest.

Mushrooms:	Morels Matzutakis Truffles
Christmas and Floral Greens:	Evergreen Boughs Salal Bear Grass
Berries:	Huckleberries Medicinal products: Yew

Because the Wild Things have grown into a significant industry, the federal government needs to make a plan about allowing use for individuals and companies. Should we all have access to the land? Should Fred Meyer be able to go in and harvest public lands for free? Should commercial logging companies be allowed to go in and log areas, thus destroying some of the other species that people want from those areas? Do you place more value on the land for its aesthetic appeal, its economic value, or the foods and goods it provides?

In this activity you will assume the role of one of the players in the debate over public lands. You will learn to think like they might, and then you will hear the views of other people. Together, you should try to decide what should be done.

Instructions

1. Read over the background information in the student dossier. Assume the role of the person you are playing. How do you (as the person you are playing) feel about the unfettered use of public lands for harvesting wild things for private gain?
2. Write a page describing your opinions (as the person you are playing). Think about and address the following.
 - Do you think citizens should be able to collect plants from public lands like forest service or BLM lands? Should businesses? Corporations?
 - Do you think they should have to pay a fee?
 - Should people be able to profit from the plants they pick?
 - Should the federal government regulate picking?
 - Should the government control logging to preserve areas for non-timber forest products.

- What kinds of problems can you see associated with this issue?
3. Get together with a group of students who are in the same role as you. Read your paper and listen to theirs. Jot down any ideas that they have that you didn't think about.
 4. Prepare a short presentation describing your point of view including information from the background information and points that other students might have brought up.
 5. An Economic Development Council will convene. You will meet with 6 other people who have stakes in the use of the woods. You will listen to who they are and their perspectives, and you should explain yours. Be sure to explain who you are and what your interest in the woods is. Then describe your answers to the questions above and any other points you would like to bring up.
 6. With the group, you are to try to work out a plan for the management of public forest lands in Oregon. Who should have access to commercial use of the land. Will that access be free? Will there be any restrictions?
 7. Bring up points from the Additional Information section of your dossier as you think they are needed.

Title: Warm Springs Tribal Elder

Background Information

- Our people have always been self reliant. The resources of the land are ours to pick up and keep.
- The Warm springs reservation land belongs to the Indian Tribes. Though the US government has taken most of the land traditionally used by the Native Americans, it promised this land to the Confederated Tribes of Warm Springs.
- The Native Americans who live here come from a very long heritage of people who hunted and gathered from this land. Many of the plant species found here are spiritually and culturally meaningful to you.
- Non-Indians have been invading the land for their own wild harvesting. They have had the cheekiness to attempt to sell wild crops from Indian lands to Indians.
- The economy of the reservation is depressed compared to that of the rest of Oregon. Wild harvesting is an economically valid method of raising money.
- Early treaties guaranteed Indians the right to trade and barter from the reservation land.

Additional Information (to use during debate)

- In 1932, Indians in Washington State, just across the river, were given the right to harvest all wild berries on one side of the road in the famous 'handshake agreement'. Other Americans are able to harvest on the other side of the road.

Notes:

Title: Forest Service Biologist

Background Information

- The purpose of the Forest Service is to provide products for the public while managing the product and forest for future generations.
- My goal is to assess the impact on the overall resource whether it is mushrooms, berries, salal, or timber.
- Over-harvesting can decimate the parent population, decreasing yields for the next generation. In extreme cases, it can cause species to become extinct.
- All species in the forest require time and enough diversity to survive and thrive. If you pick too many, there aren't enough to reproduce.
- Disturbance by humans impacts the entire ecosystem.
- Mushroom hunters are very hard on the land because they dig it up. Matzutaki mushroom habitat is very fragile.

Additional Information (to use during debate)

- We currently provide designated areas for picking some resources each year so that some areas are left to grow and reproduce for future years.
- Matzutaki mushrooms require Old growth Forests.
- One of the problems with areas that have a lot of harvesters is that they leave a lot of garbage. We don't have much money for policing the area or for trash pickup.
- The harvest of Christmas Greens can actually save the forest service money by thinning the undergrowth. We do this anyway, but if someone else does it and carries away the debris, we don't have to pay for it.

Notes:

Title: Logging Company Representative

Background Information

- My job is to harvest timber to make wood products, such as paper and lumber for home building, for the use of citizens like you.
- Timber harvests create huckleberry habitat. They thrive on open areas.
- Morels also do better in clear-cut areas.
- There's some nice Old Growth Timber in that area used by the Wildcrafters. It's one of the only Old Growth stands left in the area.
- Timber is more valuable than non-timber forest products. I can make \$100,000 dollars in a couple weeks with only one or two guys.
- Timber in Oregon used to be a lucrative business, but times are rough. We need to cut all the lumber we can access.
- Non-timber forest products are only 1/10 the value to the economy as timber sales.
- Sure, if we log it, we'll replant. There will be a nice stand of trees in there in only 60 years or so.

Additional Information (to use during debate)

- Even if we harvest, we replant. There will be a nice stand of trees in there after 60 years or so, and there will be more matzutakis (mushrooms).

Notes:

Title: Commercial Producer

Background Information

- As a commercial producer, I acquire leases on government land and hire people to pick on them, or I am the middleman, buying products from people who harvest them. I then make the product available to the marketplace. I am running a business, I need to make as much money as I can.
- Christmas Greens are a big money maker. They are estimated to be worth 300-500 million dollars in the Northwest alone.
- Logging companies, please leave us a little of what we have left. There isn't much left.
- I used to be able to buy a lease to cut salal for \$50, now it's \$1200. I have to have a crew to work the land to make enough money to pay for the lease and all my costs.
- When I buy mushrooms, they lose 10% of their weight in 24 hours. Thus, if I buy \$1000 worth of mushrooms, I lose \$100 before I can even get them to markets. There are also taxes and other handling charges I have to pay.
- I pay for my permit by the year. If the crop here disappears, I won't buy a permit for this area next year.
- I don't have employees, I buy salal from independent contractors. If I had employees, I'd have to provide health insurance and other benefits, transportation and then I'd have even more start up costs.
- I sell Salal to distributors world wide. Salal competes with tropical foliage in European markets.
- I would never take advantage of my migrant laborers.

Additional Information (to use during debate)

- You can harvest non-timber forest products annually. It takes 50-60 years to re-create timber.
- It's true that other buyers have been known to treat pickers unfairly. And yes, some of the pickers don't really have any other options or resources.

Notes:

Title: Small Business Owner

Background Information

- I am a single parent who runs a floral business. I am able to work with independent contractors who harvest greens from the forest service lands to acquire greens for wreaths for a very reasonable price. If I have to pay more, I will not be able to stay in business.
- I buy 1500 pounds of greens every holiday season from independent wildcrafters who harvest them from the public forest.
- Big companies, such as Wal-mart can get contracts with private timber companies like Weyerhaeuser to get greens to make their wreaths. Mom and Pop organizations like my own cannot afford these.
- I pay taxes as an American citizen for the federal government to manage public lands for public use. This is the use I want to put it to.
- The Government owns the ground. It should be available.
- Christmas greens alone are probably a 300-500 million dollar a year industry in the northwest.

Additional Information (to use during debate)

- The harvest of Christmas greens is actually very low impact. Forest service personnel would think the lower branches anyway. We are actually saving them money.
- By trying to create my own small business, I am stepping on some 'billion dollar toes' when I compete with the large industries. These people have more lobbying power than I do, so congress is more likely to hear them.
- The economy of my town has been depressed ever since the timber industry crashed. Now the mill is closed and only a few people still work as loggers. With my business, I am able to pay regular wages to three employees who help me make wreaths and other seasonal greenery.

Notes:

Title: Harvester

Background Information

- As a harvester, I spend many months of the year moving around the wilderness, picking whatever is in season. I make a living this way. People I know can make \$50,000 or \$60,000 a year doing this.
- Harvesters are 'overpoliced'. There is too much money spent on enforcement of regulations.
- Harvesters should have an equal opportunity to get to where products are as logging companies do. Instead, we come to locked gates.
- When harvesting Christmas Greens, we cut no more than 15% of a tree's foliage in one year. The forest service would do the same in 'thinning' the area, but would then throw the greenery away. I am putting the land to multiple uses.
- A crew of people can come to an area and work for a month to bring in \$100,000 worth of greenery. The difference between logging companies and us is that I can come back again next year and do it again. The profit is also shared out among more people.
- Harvesting is a way of life for some people. Harvesters are close to the land, and the majority of them are very careful to have low impact on the land they love.

Additional Information (to use during debate)

- I don't want to wait 60 years for mushrooms to come back to an area. I want to harvest now, not wait for the forest to grow back.
- Most of you have bought non-timber forest products.
- Because we compete with tropical foliage, we are working to save the rainforest.

Notes:

TITLE: Environmentalist

Background Information

- I believe the federal government has an obligation to take care of the land so that it will be in good condition for generations to come. They should not allow people to come in and harvest products from the land because the pressure is hard on the ecosystem and sometimes harvesters have severely decimated natural populations of plants, nearly to the point of extinction.
- Matzutakis require Old Growth trees to grow.
- It might take 60 years after clear cutting before the matzutaki habitat is recreated.
- In the past, over harvesting of wild things has caused severe damage to the ecosystem.
- The Pacific Yew used to be considered a 'junk' tree and was left behind to be burned after clear cutting of an area. Today, a cure for cancer has been found in the Yew.
- Who knows what other important cures are out there that we don't know about. Diversity in the wild is important for the ecosystem, and because we don't know the properties of all the plants yet.

Additional Information

- The Pacific Yew is experiencing another trial as the original patent is running out and other large pharmaceutical companies try to investigate it's properties. The tree is being improperly harvested and they are cutting down 300 year old trees.

Notes: