

# DECISIONS! DECISIONS!

ITV SERIES

TRAILS: Caring

GRADES 4-6

## PREVIEWING ACTIVITY

Explain to the students that they are going to be responsible for making an important decision. Their decision may have an effect on people, or it may have an effect on wildlife. Give each student a copy of Worksheet #1. Explain that Picture A shows a case where a decision must be made. Draw students' attention to the power line going through the branches and the squirrel in the hole of the tree. Direct the students to look at Picture B which focuses on the power lines. Brainstorm with students why this tree may need to be cut down. Have students write some of the reasons below the picture. Direct the students to look at Picture C which focuses on the squirrel in the tree. Brainstorm with students the squirrel's position on cutting the tree. Have students write some of these reasons below the picture. In the space for Picture D have students make a decision on what will be done and illustrate this decision. Below the picture students should write their reasons for this decision.

*Note to Teacher: This video deals with the difficult decisions which must sometimes be made concerning humans and wildlife. It presents a well-balanced view of these decisions.*

## FOCUS FOR VIEWING

The focus for viewing is a specific responsibility or task that students are responsible for during or after the viewing to focus and engage students' viewing attention.

Tell students that they are going to be watching a video which shows some of the decisions which must be made about people and wildlife.

Ask students to determine why the director of this video showed a close-up of the presenter.

## VIEWING ACTIVITIES

**START THE VIDEO** at the beginning with the picture of the mountain goats.

**PAUSE THE VIDEO** with the picture of the narrator at his computer and the words, ". . . and how those decisions can spell good times or bad luck for wildlife." Ask students why the

## OVERVIEW

In this lesson students will explore the decisions which must be made to protect wildlife and to provide necessities for people. They will study the needs of wildlife and learn to weigh the strengths and weaknesses of decisions they make now and will make later in life. This lesson has a strong hands-on environmental science component and has graphing and measuring components to strengthen mathematical skills.

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## LEARNING OBJECTIVES

Students should be able to:

- Describe the difficulty of making responsible decisions
- List the pros and cons of different environmental decisions
- Describe the four needs of animals
- Create a graph showing the changes during an action game
- Measure accurately

## VIEWING ACTIVITIES (continued)

director chose a close-up view. Discuss the decisions a film director must make.

As a focus for viewing of the next segment, ask students to look for the problem which must be faced because of the swallows under the bridge. **RESUME THE VIDEO.**

**PAUSE THE VIDEO** at the next picture of the narrator at his computer with the words, “Can you think of things we could do to get both the extra room and not disturb the swallows?”

Discuss the swallows’ problem. Brainstorm ideas to solve the problem for the family and the swallows. In the next segment of the video ask the students to look for some things they might need to know about swallows before making a decision.

**RESUME THE VIDEO.**

**PAUSE THE VIDEO** at the next picture of the narrator at his computer with the words, “This decision-making business can get pretty complicated.” Discuss the focus question. In the next segment of the video have the students look to find out how the swallows might make the decision. **RESUME THE VIDEO.**

**PAUSE THE VIDEO** at the next picture of the narrator at his computer with the words, “If they could change our habitat, we’d want the swallows to be more considerate of our needs.” Discuss the focus question. In the next segment of the video have the students look for four things which every animal needs in his habitat. **RESUME THE VIDEO.**

**PAUSE THE VIDEO** at the next picture of the narrator at his computer with the words, “All of us must have all four things.” Discuss these four items with the students.

### **Oh, Deer Activity** (Adapted from PROJECT WILD)

Take the students to a large place on the playground or to the gymnasium. Tell them that they will be playing a game to find out what happens when an animal can’t find some of its basic needs.

Divide the students into two groups. One group will be deer. The students in the other group will each choose one of the basic needs and be ready to make the following signs:

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## VIEWING ACTIVITIES (continued)

- food—hands on stomach
- water—hand on mouth
- shelter—hands in a tent shape above head
- space—arms spread wide

While students are all together, discuss the rules of the game. The deer will be on one side of the playground and the needs will be on the other. They will face away from each other. The deer must decide what basic need they will be looking for and make that sign.

The needs will decide what they are and make that sign. There can be no changing of signs. When the teacher tells the groups to face each other with their signs, the deer must hold their sign and rush across the playground and capture a “need” with the correct sign. If a deer cannot find the correct need, he is “dead” and becomes one of the needs for the next turn. A “need” that is captured becomes a deer for the next turn. For each turn of the game, the teacher will keep track of how many deer and how many of each need are playing.

When students return to the classroom, the teacher should write the results for each turn of the game on the board and have students graph them. Have students discuss with others what the significance is of their results.

*Note to Teacher: Students really enjoy this game. However, they are apt to change their signs to accommodate a friend. Be sure to tell them that this is a scientific experiment. If they change it in any way, they will not obtain accurate results.*

As a focus for viewing for the next segment of video, direct the students to find reasons for some decisions made about salmon.

### **RESUME THE VIDEO.**

**PAUSE THE VIDEO** with the picture of the narrator at his computer after the words, “Let’s go back and see what happened.” Discuss why decisions were made to place dams in the rivers. As a focus for viewing in the next segment, have the students look for the consequences of these decisions.

### **RESUME THE VIDEO.**

**PAUSE THE VIDEO** with the picture of the narrator at his computer after the words, “Let’s see how we changed our plans to help the salmon.” Discuss with the students some of the problems the dams created for the salmon. In the next

## MATERIALS

### Previewing Activity

Per student:

- one copy of Worksheet #1
- one pencil
- crayons as needed

### Oh, Deer

- large playground space or gymnasium
- pencil and paper for teacher

Per student:

- one sheet of 1 cm graph paper
- four different colored pencils

### Making Decisions

Per class:

- one ten gallon aquarium or similar sized plastic container
- water
- long-handled spoon
- measuring spoons
- six quart jars
- one jar of dirt
- food coloring
- ammonia
- litmus paper
- five small fish cut from plastic with a hole punched near mouth
- “fishing pole” made with a pencil with opened paper clip attached

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## MATERIALS (continued)

- one inch diameter piece of plastic, inch ruler
- one cup confetti
- large sack of M&Ms (enough for 10 M&Ms per student)

Per student:

- one small cup or cupcake paper

## ACTION PLAN

Visit a fish hatchery

Have speakers from power companies and Fish and Game speak to the class about salmon. Later, compare their responses to the salmon problem.

If possible, visit a dam with a fish ladder or visit an area where salmon are milked for eggs.

## VIDEO AVAILABLE FROM

ITV Overnight Block Feed. Consult your local PBS station for broadcast schedule.

Available for purchase from:  
Idaho Public Television  
1455 N. Orchard  
Boise, ID 83706  
1-800-543-6868

\$14.95 plus \$4.00 shipping & handling.

Series of 10 environmental videos available for \$120.00 plus \$8.50 shipping & handling.

## VIEWING ACTIVITIES (continued)

segment of the video, have the students look for how some of these problems were solved. **RESUME THE VIDEO.**

**PAUSE THE VIDEO** with the picture of the narrator at his computer after the words, “The question is whether or not we want this animal around us in the future.” Have students discuss whether they think correct decisions were made about the salmon. As a focus for viewing for the next segment, have the students look for reasons for and against returning the next animal to our state. **RESUME THE VIDEO.**

**STOP THE VIDEO** with the picture of the grizzly bear in the water after the words, “The result will be a decision.” Tell students to remember the information about the grizzly bear for a later activity.

## POST VIEWING ACTIVITY

**Making Decisions** (Adapted from “It All Goes In The Snake” by Lynne Ball)

*Note to Teacher: Have the items below set up for the activity before class begins:*

*Aquarium with eight gallons of water (label this Pacific Ocean)*

*Decision Maker cards, cut into strips (see pages 7-14)*

*Cups of ten M&Ms for each student set out—money*

*Five quart jars, 1/2 full of water labeled with the following names: Payette River, Big Wood River, Snake River, Boise River, Coeur d’Alene Lake*

*Jar of dirt*

*Quart jar filled 1/2 with ammonia and 1/2 with water labeled clear contaminant*

*Litmus paper*

*Five small fish made of plastic*

*Pencil with opened paper clip attached as a hook*

*Round piece of plastic taped to the 0” mark on a ruler (secchi disk)*

*One cup confetti*

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## POST VIEWING ACTIVITY (continued)

Tell the students that they are going to be doing an activity where they will have to make decisions which can affect the environment or which can affect them as people. Give each student a “decision maker” card. You may need to give some students more than one card. Give each student ten M&Ms to be used as money. Tell them they may not eat them now.

Go through the “decision maker” cards in order. Each student should read the card aloud and make a decision following the instructions on the card. When the game is over, discuss students’ feelings about their decisions. Share the rest of the M&Ms.

## EXTENSIONS

**Language Arts:** Prepare a report on the salmon problem or on grizzly bear reintroduction.

**Debate:** Have students prepare information for both sides of a debate on grizzly bear reintroduction. At the last minute assign sides and hold a mock televised debate. This is fun to tape and view later.

**Art:** Make salmon prints. Purchase a small salmon from the market. Brush thinned tempera paint on it and have students place large sheets of paper on top and press. Make frames from another color of paper and post around the room.

**Music:** Create songs about making environmental decisions.

**Technology:** Do further research on endangered species on the following web sites:

<http://www.endangeredspecies.com/organizations.html>

<http://www.afternet.com-teal/species-else.html>

<http://www.tnc.org>

<http://kingfish.ssp.nmts.gov/salmon/salmon.html>

<http://www.nceet.snre.umich.edu/EndSpp/Endangered.html>

<http://www.schoolworld.asn.au/species/reports.html>

Lesson Plan Created by Master Teacher Sandra Calkins,  
Richfield Elementary School, Richfield, Idaho



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## Worksheet #1

Name \_\_\_\_\_

Directions: A decision needs to be made. The tree has a squirrel living in a hole in it. However, the power lines for a small town run through the tree. They might be blown down in a bad storm. Under each picture write a sentence about the picture. In the last box draw a picture and tell what decision you made. On the back of this paper tell why you made this decision. What problems might happen because of your decision?

Picture A



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Picture B

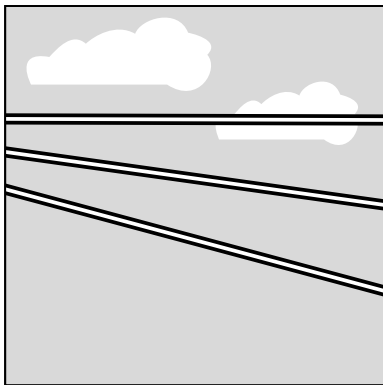


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Picture C

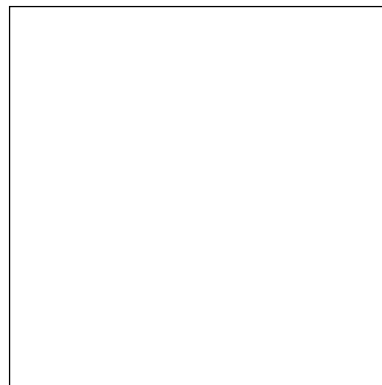


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Picture D



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## Decision Makers

### Decision Maker #1

I am a careless person driving near the Payette River. I throw a burning cigarette out of my window and start a big forest fire. Many trees are burned. Erosion happens and ashes and mud get into the river. Mud also is washed into the Snake River, the Columbia River and then into the Pacific Ocean.

(Add 1 tsp. dirt to the Snake River and 1 tsp. dirt to the Pacific Ocean.)

### Decision Maker #2

I live near the Big Wood River. My septic tank is old, and it has been leaking into the river. The well I use for my house still is clean, but people downstream must live with my septic waste. The cost to repair my septic tank is \$500. I was planning to go to Disneyland but must choose whether to pay to have the septic tank fixed or let it keep polluting the river and save my money.

(Either pay one piece of "money" or add two drops of color to the Big Wood river and four drops to the Pacific Ocean.)

### Decision Maker #3

I am the owner of a ship in Portland. It is carrying things made in Japan to California to be sold. I need to refuel the ship in the Pacific Ocean. I can refuel in the middle of open water with a barge or go to a fuel dock in Portland. I can save my company \$10,000 by not taking the ship all the way into Portland. However, using the barge may hurt the environment because small amounts of fuel are spilled when it is transferred and no clean-up equipment is near.

(If you choose to refuel at a fuel dock, pay five pieces of "money." If you choose to risk spilling some of the oil into the Pacific Ocean, add 1/2 cup of contaminant to the Pacific Ocean.)

### Decision Maker #4

I live on an island in the Coeur d'Alene Lake. I have a sailboat which I take out when I can take time off from my busy life. At the marina where I keep my boat, there is no pump out for emptying the head (toilet) of the boat. I just flush it into the water. It saves me a lot of money.

(Add three drops of color to Coeur d'Alene Lake.)

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## Decision Maker #5

I live in Nampa, Idaho near Lake Lowell. When I change the oil in my truck, I just let it run onto the ground. It then seeps into the soil and pollutes the water in the lake. That water then drains into the Snake River. I know that waste oil can be recycled at a nearby gas station, but I'm too lazy to do it.

(Add four drops of color to the Pacific Ocean.)

## Decision Maker #6

I like to keep my lawn looking nice, so I use lots of fertilizer and weed killer on it. I also use insecticides so I don't have so many insects around. I can't think what my yard would be like if I had to stop using these chemicals. I guess it's all washing into the Snake River.

(Add one tsp. of clear contaminant to the Snake River and 1/4 cup to the Pacific Ocean.)

## Decision Maker #7

I have a dairy farm near the Snake River. A stream that flows into the Snake River runs through my pasture. When my cows walk through the stream they break down the bank and manure gets in the water. It's easier and cheaper for me to let the cows drink out of the stream rather than pumping water to a trough in the pasture. If I decide to protect the stream it will cost me \$1,500 for a fence and watering system for my cows.

(Either pay two pieces of "money" or add two drops of color to the Snake River and six drops to the Pacific Ocean.)

## Decision Maker #8

I love to picnic in parks along the Snake River in the summer. My friends and I have big parties with lots of food and drinks. Sometimes we're a little careless with our trash. Lately, I've started seeing chunks of styrofoam and plastic containers everywhere.

(Add a teaspoon of confetti to the Pacific Ocean.)

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## Decision Maker #9

I'm a builder. I make money by building and selling condos. People like to live along the water. I would like to fill in some of the wetlands along the Snake River to build my condos. If I do this, it will take away habitat for fish, birds, and other wildlife.

(If you choose to build your condos, reach in the Pacific Ocean and remove one fish. If you decide to protect them, pay the bank three pieces of "money.")

## Decision Maker #10

I work for a large timber company that owns trees in the mountains. In taking care of our forests we often use herbicides to keep weed trees from slowing the growth of our trees. If we stopped using herbicides, we would have fewer good trees to cut down. But herbicides go into the water and pollute the Snake River. We must decide whether to go on using herbicides or give up some of the money we might make.

(If you choose to stop using herbicides, pay five pieces of "money." Otherwise, add one tsp. of clear contaminant to each of the rivers emptying into the Snake River. Add 1/2 cup to the Pacific Ocean.)

## Decision Maker #11

I raise trout at a fish hatchery around Thousand Springs, Idaho. The fish food and fish solid waste dump into the springs and then into the Snake River. The springs and river can't take any more dumping. It's causing the algae to grow and water quality is being destroyed. I wish there was some other place I could pump the wastes from the fish. If there is, I wish you would tell me about it.

(Add 1 tsp. of clear contaminant to the Snake River and 1/4 cup to the Pacific Ocean.)

## Decision Maker #12

I help run a water treatment plant for a small city on the Payette River. A new water treatment plant would pollute the water less than our old treatment plant does. But we don't think the people of our town would be willing to pay an extra charge to build a new water treatment plant.

(This would be a decision for the people. Take a class vote. Would the class be willing to tax themselves one piece of "money" to build the new plant? Or will they keep on polluting. If the vote is yes to tax, each student must pay one piece of "money." If the vote is no, add ten drops of color to the Pacific Ocean.)

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## Decision Maker #13

I raise fruits and vegetables on my farm near the Snake River. I use chemical fertilizers and pesticides on my crops. Some of these chemicals wash into the river. I know some farmers have switched to organic farming. I wonder if they're making as much money as I can by using these chemicals.

(If you decide to farm organically, pay two pieces of "money" for losses you have to take when you switch over. If you decide against it, add 1 tsp. of clear contaminant to the Snake River and 1/4 cup to the Pacific Ocean.)

## Decision Maker #14

I am a retired person living near Atlanta, Idaho. I depend on fishing as my meat source. When the Kirby Dam fell in, all the arsenic from the old time mining that was stored behind the dam was washed downstream. There was a fish advisory. We were allowed to eat one fish a week or less.

(Add 3 tbsp. clear contaminant to the Boise River. Use litmus strip to test the water. If it turns blue, the river is contaminated and you may not eat fish from the river.)

## Decision Maker #15

I live in New York and I love to come to Sun Valley, Idaho to fish. I am a fly fisherman. The fishing on Silver Creek and the Big Wood River near Sun Valley is first rate. If the low stream flows go on happening in a year of drought, fishing will be terrible. I will have to find another place to go fishing.

(Each person playing the game will need to give one piece of "money" to the city to offset the loss of the money from the tourists who are no longer wanting to come to Idaho to fish.)

## Decision Maker #16

I work for a salmon hatchery on Eagle Island on the Boise River. We hatch and raise the fish in water from the river. The fish are then sent into the famous Salmon River when they are old enough. If the water is too polluted, the fish won't live and the salmon won't make it to the Columbia River and the Pacific Ocean.

(Take a water sample from the Boise River. Compare it with clear water. If it is darker than the clear water, the fish will not survive. Pay three pieces of "money" and look for another job.)

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## Decision Maker #17

I work for a power company from Utah which wants to put a dam on the Payette River. All that water is just going to waste. It could be getting cheaper power for people. The Payette River is a wild and scenic river and is rated high as a kayaking river. A few kayakers might be hurt, but wouldn't we rather have cheaper power?

(Have the class vote on whether to dam the Payette River. If the vote is yes, remove half the water from the Payette River and pour it out into a sink or waste bucket. Remove two fish from the Pacific Ocean. If the class votes not to dam the Payette River, turn off one light in the classroom.)

## Decision Maker #18

I work for a logging company which has been cutting trees in several parts of the Sawtooth Mountains. We have been cutting on steep slopes and sometimes working close to the streamside. Now that the spring rains are here, erosion and mud slides are carrying large amounts of silt into the river.

(Put 1 tsp. dirt into each river entering the Snake and Columbia Rivers. Add 6 tsp. dirt to the Pacific Ocean and stir gently.)

## Decision Maker #19

I am the boss of a floating green golf course in Coeur d'Alene Lake. I want to make the lake deeper. It will help make the golf course stay in place better and make it more beautiful so that more golfers will come. Then we can hire more people. The trouble is, the bottom dirt that needs to be taken away is filled with poison. It would cost us one million dollars to have it shipped to a toxic waste site on land where it would be out of the water. If we did this, we would have to charge the golfers more money. I'm asking for permission to get rid of it in a cheaper way. I want to put it back in Coeur d'Alene Lake somewhere else.

(Ask for a class vote to decide whether you will be allowed to dump toxic dirt back into Coeur d'Alene Lake. If the class votes yes, add 8 drops of color to the Pacific Ocean. If the class votes no, pay 5 pieces of "money.")

## Decision Maker #20

I run a resort at the town of Astoria, Oregon. People come from all over the country to spend their vacations sailing, fishing, and having a good time on the water. If the water is polluted from the Columbia River, people will stop coming here and I'll go out of business.

(Use the secci disk attached to the ruler to test the water. Lower it in the water of the Pacific Ocean. If you can't see it six inches from the top of the water, turn in all your "money" and go out of business.)



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## Decision Maker #21

I just bought a sailboat which needs some work. I need to have it hauled out of the water so I can repaint the bottom. I will have to scrape all the old paint off before I can put all the new paint on. The paint has copper and other chemicals in it to keep barnacles from growing on the boat. When I scrape off the old paint, it just falls to the ground where it will wash back into the water. We just love going sailing around Astoria.

(Add 1/4 cup of clear contaminant to the Pacific Ocean.)

## Decision Maker #22

I just cleaned my basement. I discovered 10 cans of old paint and some very old pesticides and weed killers I can't use. I know it's not legal, but it would be easy just to hide them in my garbage can with my other garbage and have them taken to the dump. At the dump, these chemicals would go into the groundwater. Or I could spend a few minutes on the phone learning where I should take them, and then taking them to a place where they will be taken care of safely. I wonder who I would call?

(If you decide to just hide them in your garbage can, add 1/4 cup of clear contaminant to the Pacific Ocean. If you decide instead to spend some of your time getting rid of these materials right, pay one piece of "money." A call to your county health department would be a good start.)

## Decision Maker #23

I am a small fisherman trying to catch catfish (a bottom feeding fish) in the Snake River. If I catch fish that contain toxic materials higher than federal standards, I cannot sell them to the public and I will not be able to make my boat payments. I will have to go out of business.

(Test the water in the Snake River with a piece of litmus paper. If it changes color, the fish are too contaminated to sell. Turn in all your "money" and go out of business. If it doesn't change color, try catching some fish.)

## Decision Maker #24

I am a boss for a company which ships raw oil to oil storage tanks in Portland. Some people say to replace our old tankers with new ships that have double hulls with two layers of steel to hold the oil. They say it would help stop oil from leaking as easily in case of an accident. It would cost us millions to make this change. We would then have to pass the cost on to our customers. Gas would cost more at the pump. We aren't going to do it unless we're told!

(Take a class vote. Would the people be willing to pay more to drive their cars in order to keep the chance of a big oil spill from happening in the Pacific Ocean? If they agree, each person pays one piece of "money." If they don't, add 15 drops of color to the Pacific Ocean.)

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## Decision Maker #25

I am the boss of a silver smelter near Kellogg. Our process is polluting the air and water of Silver Valley. To clean up our factory would cost us one million dollars. If we have to pay that much, we will have to cut back our business and 300 people will lose their jobs. I have to choose whether to stop polluting and put workers out of a job or go on and operate the way we have been.

(Either pay 5 pieces of “money” or add 1 cup of clear contaminant to the Pacific Ocean.)

## Decision Maker #26

I work for a fertilizer company on the Snake River. We use 400,000 gallons of clean water from the river every day. Then we return 200,000 gallons of polluted water to the river each day. To clean up so that we don't pollute the water would cost one million dollars. We also pollute the air.

(Remove 1 cup of water from the Snake River and pour it into a sink or waste bucket. If you go on polluting the river, add 2 drops of color to the rest of the water in the river and 8 drops to the Pacific Ocean. If you decide to “come clean,” pay 5 pieces of “money.”)

## Decision Maker #27

I live in Boise. I can't afford a car, but I love to go fishing. Each weekend I ride the bus down to the river to fish for trout off the bridge. I have always taken the fish I catch home to eat. Is the water so polluted that the fish I'm eating is toxic?

(Use litmus paper to test the water in the Boise River. If the color is not dark blue, you are still healthy. But, if it tests dark blue, you will get cancer from eating toxic fish. Pay 5 pieces of “money” for your medical expenses, give away the rest to your friends and relations, and die!)

## Decision Maker #28

I am the boss of a nuclear fuel plant on the aquifer above the Snake River. We have been storing low and high level radioactive materials for years. We are unable to move these waste materials out of state so that there is not the danger that they will leak into the aquifer. Should the commission arrange for storage in a safer place out of state? If it does some of our people will lose their jobs.

(Have the class vote. Should the waste be moved out of state? If yes, donate one piece of “money.” If no, you may get cancer from the radioactive water coming out of the aquifer. Pay 5 pieces of “money” for your medical treatment.)

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## Decision Maker #29

I am a Water Quality Officer for the State of Idaho. We do have laws to protect the environment, but sometimes they are not obeyed. It takes people like me to see that the laws are obeyed and take the disobeyers to court. It takes tax money to pay my salary so I can do this work. But many people complain about taxes. Would you tax yourself so that there will be money to enforce clean water laws?

(Take a vote. If the class votes to tax themselves, everybody pays one piece of “money.” If the class votes to hire you, you may then issue a fine to up to three people in the room who polluted during the game. Charge these violators one piece of “money” each. Don’t tell the voters this before they vote!)

## Decision Maker #30

I am a salmon living in the Pacific Ocean. I depend on the Pacific Ocean and its rivers to complete my life cycle. If the Pacific Ocean becomes polluted or my natural habitats are destroyed, I may not be able to get all the things I need from my environment. Then you may not see so many of me returning to the Pacific Ocean.

(Pour the waters from the rivers into the Pacific Ocean. Test the ocean with a piece of litmus paper. If it changes color, you die and you must give away all your “money” to those who polluted you. If it doesn’t change color, each person in the game must give you one piece of “money.”)