

Dragonfly Pond

Dear Presenter,

This is a 20 to 25 minute presentation and HANDS-ON activity for approximately 24 ten year-old children. You **MUST** do this activity at home **BEFORE** you attempt to lead the activity during the Water Festival.

As each new group of students arrive, find the classroom teacher, introduce yourself, and let the teacher know this is a hands-on activity and you will need assistance from him/her. If you do not ask for assistance, the teacher will assume that **YOU** are the **EXPERT** and they are the observer! Plan when you will ask the teacher for assistance! **DO NOT** hesitate to call the teacher by name and politely ask for their assistance with **ANY** of your needs.

As each session begins, introduce yourself to the students. "Good morning, my name is.... and I work for..., I am a or simply I am happy to be here today." Then introduce the topic of this presentation. Each step of this presentation is explained in this packet. These are recommended guidelines and do not have to be followed exactly word for word. However, you may present this material just as written. Feel free to personalize the presentation to suit you.

Thank you for volunteering to present "Dragonfly Pond." Have fun, enjoy yourself, and we hope you will consider volunteering again next year.

Big Sioux Water Festival

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BACKGROUND

Background information is provided as a basic overview with both general and specific information. Share this information with the students throughout the presentation.

Every human use of land affects wildlife habitat, positively or negatively. What humans do with land is a reflection of human priorities and life-styles. The search for a modern day “good life” and all of its conveniences produces mixed results for wildlife and the natural environment. Sometimes people see undeveloped areas of natural environment as little more than raw material for human use. Others believe that the natural environment is to be preserved without regard for human needs. Still others yearn for a balance between economic growth and a healthy and vigorous natural environment. Very real differences of opinion regarding balance exist between well meaning people.

At the core of land use issues is the concept of growth. Growth in natural systems has inherent limits, imposed by a dynamic balance of energy between all parts of the system. Energy in natural systems is translated into food, water, shelter, space, and continued survival. This means that the vitality of natural systems is expressed by their ability to be self-regulating. This capacity for self-regulation makes it possible for all natural members of an ecosystem to live in harmony. All the life forms of any ecosystem must be considered. The microbes in the soil are just as necessary to a habitat as the plants and predators. It is this natural dynamic balance, with all its inherent and essential parts, that much of human land use has tended to disturb.

Human activities can often go beyond the natural limits of a setting. Humans have the ability to import energy sources that allow a system to exceed its natural limits or to remove energy sources that are necessary for a system to stay in balance. For example, people can build dams to create power, water can be captured for irrigation, wetlands can be drained for homes and buildings. All of these activities affect wildlife habitat.

Wetlands, for example, are often seen as swampy wastelands, yet they are the nurseries for hundreds of forms of wildlife. Fish, frogs, toads, migrating birds, snakes, insects, and a remarkable variety of plants all make a home of wetlands. Wetlands are highly vulnerable to development, pollution, and a variety of forms of human interference with the natural flow of water. Hundreds of thousands of acres of valuable wetlands are lost each year to draining, dredging, filling and pollution.

Given the extensive impacts humans have already had and continue to have on the land, a major challenge now facing humans is how to have a more responsible impact. How can we develop the awareness, knowledge, skills, and commitment that are necessary in order for humans to take responsible actions affecting the remaining areas of natural wildlife habitat? How can we develop the necessary understanding to restore a more natural dynamic balance in places where human disturbance has existed for centuries?

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MATERIALS LIST

(For 6 presentations with approximately 24 students)

CONSUMABLES

- Student handouts - Rabbit Island

NON-CONSUMABLES

- 2 land use boards
- 2 beaver dam pieces
- 2 golf course pieces
- Land use pieces (see list)
- Interest group neck cards
- Laminated "Best Interests" poster
- Poster tac
- Presenter instructions, cue cards and folder

Land Use Pieces

20 house	2 gas station
2 school	2 library
2 dry cleaner	2 sewage treatment plant
2 apartment complex	2 feedlot
2 high school	2 small cornfield
2 hospital	2 large cornfield
2 police station	2 small state park
2 business office	2 large state park
2 court house	1 factory
2 grocery store	1 hog confinement unit
2 restaurant	1 fire station
2 post office	1 sawmill
2 church	1 dairy
2 landfill	1 meat processing plant

Interest Group Neck Cards

Resident (4)
Farmers (4)
Business interest (8)
Parks department (4)

City and service organizations (4)

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ROOM REQUIREMENT

Room with at least 2 large tables

PRE-PREPARATION

- Check supplies against supply list
- Make 150 copies of student handout - "Rabbit Island"

PREPARATION: Approximately 30 minutes to set up

- Lay out the two Dragonfly Pond game boards, one per table
- Separate game pieces. Divide up pieces between the two game boards. Try to allocate to each game board around the same amount of game pieces (ie., $\frac{1}{2}$ of the houses, 1 each of the grocery stores, etc.). There will be pieces that are not duplicated that can be assigned to either board.
- Separate the neck cards into interest groups
- Apply poster tac to the back of the Best Interests poster and hang on the wall or chalkboard

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THIS A 20-25 MINUTE PRESENTATION

(Procedure note cards for this presentation are included)

To best explain and supervise this activity, ONE MUST DO THIS ACTIVITY before the actual presentation

INTENDED STUDENT OUTCOMES

By completing this activity students should be able to :

- Evaluate the effects of different kinds of land use on a watershed and on wildlife habitat
- Discuss and evaluate lifestyle changes to minimize damaging effects on watersheds and on wildlife habitat

PROCEDURE

1. Introductions
2. Tell students that they are going to become members of a new town. Then they are going to build the town (arranging a pattern of land use) around Dragonfly Pond. They can name their town any name.
3. Divide the class into 5 groups - 4 groups of 4 and one group of 8. Hand out neck cards to each group. Then divide each group in half and assign sub-groups to a game board. Explain that each game board is Dragonfly pond and the water that flows in and out of the pond. They are going to arrange their game pieces on the land surrounding Dragonfly Pond in any manner they want.
4. Explain that each student will help build the town, keeping in mind the resident they are (whether they're a farmer or business person, etc.). They want to try to serve their best interests. Review the "Best Interests" poster that lists the pros and cons for land use by each neck card group.
5. Talk briefly about land use. Explain that everything is affected in a watershed by the way people use the land. Remind them that although they can't see the plants and animals around Dragonfly Pond, they are still there and must be taken into consideration when constructing their town.
6. Review the game pieces. Ask if anyone has any questions.
7. Allow students approximately 10 - 15 minutes to construct their town. During construction, encourage students to discuss what effect each of the buildings

will have on the environment.

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8. After the towns are built, have students to discuss their towns and it's land use. After each group has explained the reasons they used the land as they have, push the two tables together and line up the game boards to create one watershed.
9. Lead the discussion about how the towns are built now that it is all one watershed. Question the pros and cons of the locations of buildings and how the town builders could have used the land differently to protect the watershed and the wildlife that lives around Dragonfly Pond.

SET UP FOR NEXT SESSION

- Have students remove all the game pieces from the board
- Ask students to neatly stack the neck cards into 5 separate groups - one for each category of cards
- Give students a copy of the "Rabbit Island" handout
- Thank everyone for participating, compliment behavior and answer any questions the children may still have

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FINAL CLEAN UP AFTER LAST SESSION (Approximately 30 minutes)

- Replace all the game pieces into plastic storage bins
- Replace the beaver dams and the golf courses into the ziplock storage bag
- Re-roll the game boards around the mailing tube
- Replace all the neck cards into the ziplock storage bag
- Return all unused copies of "Rabbit Island" to storage container
- Return all instructions and cue cards to presenter folder
- Place all items into large storage container