



Objectives

Students will be able to...

- Examine and discuss the term “habitat” and its four main elements:
 - Cover
 - Food
 - Water
 - Space
- List some of the causes & consequences of “fragmentation.”
- Identify and examine solutions for “fragmentation” such as “wildlife corridors.”

Time Needed

45-60 minutes

1 class period

(2 class periods optional)

Materials

- “South India Gazette” worksheet
- “Solutions Found for Elephants” worksheet

Insider Tips

- This lesson can easily be extended to two class periods by handing out the “Solutions Found for Elephants” worksheet while the student groups are working on their persuasive statements. The public meeting can also be extended by having each spokesperson answer questions from the audience and having a vote at the end of the meeting.

Lesson 2: Understanding Habitats

Overview: While examining the importance of habitat, students will participate in a public meeting role play in which they will examine various point of views surrounding a particular solution to the problem of fragmentation.

Procedure:

Introduction

Write the following sentence on poster board, a power point presentation or whiteboard/chalkboard: “_____ is the combination of resources and environmental conditions present in an area that makes it possible for a species to survive and reproduce.” Ask students to complete the sentence. (Answer: “Habitat”)

Habitat’s Elements

1. Ask the students to name and describe the four main elements of habitat. (Answer: Cover; Food; Water; Space)
2. Ask the students to imagine what would happen to various kinds of animals if just one of the four main habitat elements were taken away or changed in some way. Stress to the students the interdependency of the four elements.
 - Example: It would not be good for elephants if there were a lot of space, food and territory to cover, but they could not actually get to their water holes because a large road was built that splits their territory in half.

Fragmentation

1. Use this example to introduce the term “fragmentation” and explain that it is caused when large areas of habitat are broken up by human activities.
2. Ask the students to give examples of things that might have caused fragmentation in their areas and to name some animals who might have been affected. If students struggle with examples, broaden the territory from local areas to anywhere.

Wildlife Corridors

1. Ask students to brainstorm solutions to “fragmentation.” Offer “wildlife corridors” as a possible solution if not given.
 - A wildlife corridor is an area of habitat connecting wildlife populations separated by human activities.
2. As a class, read the fictional “South India Gazette” worksheet.

Insider Tips (continued)

Classroom Teachers

- As an extension activity have students choose a wild animal and research the relevant habitat needs, focusing on the four elements. Then have the students research whether the animal’s habitat has been altered by human beings and what is being done, if anything, to protect this species.
- This activity aligns to Common Core Reading Standards 1 and 4; Writing Standards 1, 2, and 4; and Speaking and Listening Standards 1, 3, and 4.

Outside Humane Educators

- If you are concerned about not having enough time to complete this lesson, instead of asking questions during the “Habitat Elements” and “Fragmentation” sections of the lesson, briefly discuss the topics by introducing the terms and relevant facts.
- To cut down on confusion and disagreements amongst group members, assign one student volunteer per group to be the designated spokesperson.

Resource Links

Habitat

- www.ifaw.org/lessons
- www.equalearth.org/naturalhabitatdestruction.html

Wildlife Corridors

- www.nrdc.org
- http://www.reliableprosperity.net/wildlife_corridors.html
- <http://news.nationalgeographic.com/news/2013/01/pictures/130109-florida-wildlife-species-bears-panthers-environment-science/>

Lesson 2: Understanding Habitats (continued)

Public Meeting—Role Play

1. Divide the class into four groups representing the various parties who will speak at a public meeting about the proposed project highlighted in the “South India Gazette” worksheet.

Each group will be assigned a role:

- Government official who needs to get support for the road project from local inhabitants and conservation experts.
 - Expert from an international conservation organization working to protect elephants and other wildlife in the area.
 - Villager who has a farm at the edge of the wildlife reserves.
 - Local small business owner who will be better connected to potential customers and whose transportation costs will be lower if the road is built.
2. Give the groups 15-20 minutes to draft persuasive statements that reflect their points of view and have each group nominate a spokesperson who will assume the assigned role.
 3. Have each designated spokesperson present to the rest of the class, which will be representing the public audience attending the meeting.
 4. At the end of the presentations, provide an opportunity for questions and more suggested solutions from the “audience.”

Wrap Up:

1. Have the class evaluate each of the presentations and summarize lessons learned.
2. Hand out the “Solutions Found for Elephants” worksheet, informing the students that the public meeting role play was based on real life considerations and this worksheet recounts a true story of governmental officials, local villagers and conservation groups working together to help wildlife affected by fragmentation.



SOUTH INDIA Gazette



Road puts 1,000 elephants at risk

New highway could cut through vital wildlife habitat in southern India

The lives of more than 1,000 wild elephants are at risk from a road that could cut through their habitat in Southern India.

Conservation groups believe that the road will cut through a critical corridor of land linking two important wildlife reserves and will stop the elephants from moving safely along their natural migratory routes for foraging and breeding. Almost half of the wildlife corridors in India already have roads passing through them.

"It is crucial that something is done to help these elephants," said conservationist and elephant expert Anand Kumar. "Today, there are only 25,000 wild Asian elephants remaining in the whole of India. They are suffering greatly from poaching, habitat loss, and fragmentation. This piece of land



is also key to the survival of several other species, such as tigers. We must work with the Indian government to protect it now."

The corridor is a narrow strip of land currently owned by local people. The land is not only used by the local elephant population, but by other animals such as leopards and tigers as it links two forested areas cut off from each other by deforestation and agricultural land.

"It is crucial that something is done to help these elephants."

– Anand Kumar, conservationist

Government officials in charge of the project say the new highway would better connect human settlements to the north and south of the reserves. However, a road cutting through the forest could also result in collisions between vehicles and animals straying onto or crossing the roadway.

Local villagers are also divided in their views of the proposed road. Some think it will help their area develop and allow them to commute more easily to towns nearby. Others are concerned that it will confine the elephants into small pockets of forest, forcing the herds to stray into local villages and fields looking for food, which could destroy crops and endanger their families.

"People have very little money here and depend on the crops they grow to feed their families. When elephants stray onto farm land they tear up crops with their trunks to eat and their huge feet can ruin a whole year's harvest. Sometimes people get injured and killed when they try to frighten them off their land," explains Karthik Gowda, who lives near the wildlife reserve.

If the road is given the go-ahead by the Indian government, work could begin within the next 18 months.

In the meantime, said Kumar, "We will be working with all parties to come up with solutions that not only protect the elephants' habitat and stop them being lost to India forever, but that will help local people and the government too."

Solutions Found for Elephants

Thursday, December 20, 2007
Bangalore, India

More than one thousand wild elephants have been given a right of passage today, with the safeguarding of a wildlife corridor that links two reserves in Karnataka, Southern India. The land was handed over by the International Fund for Animal Welfare (IFAW) and Wildlife Trust of India (WTI), to forest officials in a ceremony in Bangalore—the first time land has been bought by a non-profit wildlife organization and signed over to the government to protect the habitat of the endangered Asian elephant. Michael Wamithi, IFAW's global Elephants Program Manager, said: "This is a significant step forward for elephant conservation in India, and a model I hope other wildlife groups will follow. Trans-frontier wildlife linkages are a sustainable means of addressing both habitat fragmentation and human-elephant conflict."

The signing between the Karnataka government and WTI transfers the land, known as the Edayargalli-Doddasampige (E-D) corridor, to the Forest Department. In return for the title deeds, forest officials will maintain the corridor as a safe passage for elephants. The 25.5 acres of land were privately purchased by IFAW in 2005 to ensure a viable habitat was protected from future development. WTI field staff will monitor the usage of the corridor by wildlife and ensure the movement of elephants is not hindered.

The E-D corridor is a narrow strip of land (0.5 km wide and 2 km long) that is crucial to the local elephant population as it links two forested areas cut off from each other by deforestation and agricultural land. A highway also runs through the corridor connecting human settlements to the north and south, threatening the ability of elephants to move safely between the protected areas for foraging and breeding.

Fred O'Regan, President of IFAW, said: "I am proud of this ground-breaking initiative, which aims to give privately-owned land back to the government authorities who are best-placed to enforce existing conservation laws. The E-D corridor in Karnataka is also home to wild tigers and leopards, so by protecting the habitat of elephants we are also able to provide safe passage for other endangered species and wildlife in the area."

WTI, IFAW and partners have also acquired part of an identified elephant corridor linking the Wayanad Sanctuary to the Brahmagiri Sanctuary, Kerala. The strip of land is threatened by human settlements. By acquiring the land owned by villagers, either by direct payment or by providing suitable alternative land and houses along with rehabilitation packages, the project works with local communities to ensure elephant habitat is protected for long-term conservation. Four families have already been voluntarily relocated from Thirulakunnu village. Mr. O'Regan commented: "Importantly, local villagers also benefit from the creation of corridors because they help reduce instances of conflict, thus creating a better world for animals and people."

Elephant numbers, which once were in the millions, have plummeted to an estimated 500,000. Today, there are approximately 35,000 to 45,000 Asian elephants remaining in the wild, about a tenth of the existing African elephant population. The major threats to elephant populations within Asia are poaching, habitat loss and fragmentation.