

## *The Centaur Dilemma: Issues with restricting habitat Threats to Diversity in Fragmented Habitats*



### **Introduction**

Many populations require large tracts of land in order to maintain genetic diversity. Many animals and plants use dispersal, a process by which offspring move away and reproduce in other populations to reduce inbreeding. Unfortunately, increased habitat loss has caused a great many problems in maintaining genetically healthy, self-sustaining wild populations.

When undersecretary to the Minister of Magic Dolores Umbridge played her role in restricting the Centaurs' range, little thought was given to the problems that could result from fragmenting the population. In this activity, you will live out the frustration of Centaurs who had been trapped in habitat fragments because of human interference.

### **Procedure**

1) On an appropriate number of index cards, write **only** the following codes in large print so all students can see them. On the bottom, you will put the corresponding number. Descriptors are found next to the code for your reference.

Front of Card	Descriptor	Bottom of Card	Front of Card	Descriptor	Bottom of Card
<b>AM1</b>	Adult Male	0.0000	<b>AM3</b>	Adult Male	0.1100
<b>JM1</b>	Juvenile Male	0.0101	<b>SM1</b>	Sterile Male	0.1270
<b>IN1</b>	Infant	0.0011	<b>IN3</b>	Infant	0.0202
<b>JF1</b>	Juvenile Female	0.0015	<b>AF4</b>	Adult Female	0.0019
<b>JF2</b>	Juvenile Female	0.1211	<b>AF5</b>	Adult Female	0.1020
<b>AM2</b>	Adult Male	0.119	<b>JM4</b>	Juvenile Male	0.0000
<b>AF1</b>	Adult Female	0.1022	<b>AM4</b>	Adult Male	0.0022
<b>AF2</b>	Adult Female	0.1022	<b>JM5</b>	Juvenile Male	0.0036
<b>AF3</b>	Adult Female	0.0024	<b>JF3</b>	Juvenile Female	0.0032
<b>JM2</b>	Juvenile Male	0.1222	<b>SF1</b>	Sterile Female	0.1110
<b>JM3</b>	Juvenile Male	0.0010	<b>AM5</b>	Adult Male	0.0059
<b>IN2</b>	Infant	0.1204	<b>SM2</b>	Sterile Male	0.1592

2) When students receive their cards, they should not be told what information is on their card. Students should randomly move about the room until you say STOP. Students should sit right where they are and not move. You can do this by placing chairs in areas throughout the room before they begin to move or just have them sit on the floor.

3) Before or after students receive their cards, you should add some "landscape" to your classroom. String or yarn works best. Leave trails of string to mark boundaries between small groups of students and, when students have stopped

moving, explain to students that each is a river, a fence, a road, or some other obstruction that has caused the habitat to fragment.

4) Students should look at their numbers on the bottom of their cards. Explain that these are Mean Kinship numbers which represent how related an individual is to the rest of the population. The lower number, the less related to others and, thus, genetically valuable to the population.

5) Explain to students that Centaurs live in family groups and have many pressures to which they cannot adapt: predators may attempt to take a young centaur, new boundaries may be laid down, deforestation has removed a great number of vital trees from their habitat, Death Eaters may kill centaurs who cross their paths, and more. While students are seated, calling out each of these issues and picking their code out of a bag will show how each individual is important to the dwindling groups.