### Part I – Introduction

Who doesn't like rhinoceroses? You may have admired their stout, almost dinosaur like appearances and impressive horns on a trip to the zoo. There are five species of rhinoceros, two native to Africa and three native to Asia. Unfortunately, a combination of habitat loss and hunting by poachers has resulted in massive population losses, and all rhinoceros species today are either extinct in the wild or endangered. Yet what if wildlife managers decided the best way to raise money for the conservation of rhinos involved hunting an individual?

Hunting has long been a traditional part of American society, and has also been used as a way to manage wildlife populations and raise funds for many management projects through such means as the Pittmann Robertson Act, which taxes hunting arms and ammunition. Not all members of the public agree on whether hunting is an appropriate management tool, and sentiments vary widely depending on the species being hunted. In this case study, you will learn about a true story in which the chance to kill an endangered black rhinoceros (*Diceros bicornis*) was auctioned off as a way to raise conservation funds. You are charged with learning about the conservation issues, species biology and animal behavior of black rhinoceroses that led to such a decision, and then make your own moral judgement based on the information you acquire. As a class, you will discuss the pros and cons of this decision with each of you assuming a different role including that of wildlife manager, hunter and activist.

You will listen to a 50-minute radio podcast developed by *Radiolab* titled "The Rhino Hunter," which can be found at: http://feeds.wnyc.org/~r/radiolab/~3/B3W-Nc51Hb0/.

You will also read the following article supplied by your teacher:

Hutchins, M., and M.D. Kreger. 2006. Rhinoceros behavior: implications for captive management and conservation. *Int. Zoo. YB*. 40: 150–173. (Subscription may be required.)

Lastly, you will visit the World Wildlife Fund webpages on conservation of the black rhino: http://www.worldwildlife.org/species/black-rhino

Prior to listening to the podcast, you should think about the role that hunting has traditionally played in wildlife management. Some questions you should consider include:

- Does hunting help replace the predators that have been removed or been lost from many ecosystems?
- What financial benefits do wildlife managers acquire from hunters or taxes associated with hunting?
- How might public perception of hunting of non-threatened or endangered wildlife be different than that of endangered wildlife?

#### Status of the Black Rhino

It is important to know some information about the background of the black rhinoceros before beginning your investigation. Recent status information on the black rhino is available on the International Union for Conservation of Nature and Natural Resources (IUCN) Red List, which provides comprehensive and up to date information on threatened, endangered and critically endangered species at: http://www.iucnredlist.org/.

The black rhino generally lives in Southern Africa in fairly dry habitat, and is listed as critically endangered. A status of critically endangered means the population has experienced a loss of ≥ 90% of its population in the recent past. Black rhinoceroses experienced a 98% decrease from an estimated population of 850,000 in the early twentieth century to less than 2500 in 1995. Thus, although the population is currently increasing in numbers, it is still perilously close to extinction in many areas. You will specifically be listening to a program focused on black rhinos in Namibia. The Namibian government began the Black Rhino Conservation Strategy in 2003, which instituted science based policies to increase rhino populations. Black rhino populations in Africa are currently increasing at rates near 5%, but Namibia's goal is to sustain population increases near 7.7% through a suite of actions including better policing of poachers, habitat management, vaccinations, translocation of individuals between populations, and the sale of some wild animals to raise conservation funds (Emslie and Brooks, 1999).

# Part II – Preparation

To learn about the complexity of the black rhino issue and to prepare for the class activity, you are responsible for reading and answering the questions below on the article (only read the sections indicated below), podcast, and website.

#### **Article Questions**

Read the Introduction of the article and answer the following in your own words.

- 1. What threats are causing rhinos to decline currently?
- 2. Provide at least two reasons why we should try to understand the behavior of rhinos, and animals in general, in order to manage their populations.
- 3. Describe the basic, generalized social behavior of adult females, adult males and juvenile rhinos.

Read the following sections: Courtship and Mating Behavior (155–156), Reproduction (162–163) and Implications for In-Situ Conservation (166–167).

- 4. Does aggression typically occur between male and female black rhinos during mating?
- 5. Based on zoo-keeper observations, what is the optimal "personality" combination for pairs of males and females?
- 6. Describe some of the outcomes that can occur when older, dominant males remain in a population of black rhinos. Do these increase when a population is maintained in an enclosed or small environment?

#### Radiolab Questions

You should answer some basic questions as you listen to the podcast. Read over the questions before listening to the podcast so that you are familiar with them. Each of you will also take part in a town hall debate and will be assigned one of five roles. As you listen to the podcast, take some notes. You will be responsible for writing a 2–3 paragraph position statement in which you defend your assigned position during the class discussion. More information on the debate is described below in *Part III – Town Hall Debate*.

- 7. Why do you think some of the public is so vehemently opposed to the killing of some large animals?
- 8. What is the purpose of auctioning off special hunts (conservation tags) for large game?
- 9. Why was Namibia in particular auctioning off a black rhino, and how does that create an economic value for rhinos?
- 10. Why did the Namibian government choose an older male rhino for the hunt?
- 11. What message did Leakey send when he burned a massive pile of elephant tusks in Kenya instead of selling the ivory? How did that message affect the public? Did poaching rates change, and if so, how?

#### WWF Website Ouestion

Visit the following webpage of the World Wildlife Fund (WWF) dedicated to the Black Rhino at: http://www.worldwildlife.org/species/black-rhino

Read the section titled "What WWF is Doing" to answer the question below.

12. There are other ways to conserve and increase rhinoceros populations beyond the sale of hunting tags. Describe at least three alternatives.

#### Part III — Town Hall Debate

The U.S. Fish and Wildlife Service (FWS) conducted a series of town hall meetings in 2015 in which the public was given a chance to voice their opinion on the subject of rhinoceros hunts, and whether the import of endangered animal parts, such as rhinoceros heads, that were acquired during such hunts abroad should be allowed into the United States. Thus there are two important questions that each of you must consider:

- 1. Can black rhinoceroses effectively be managed through sport hunting?
- 2. Should portions of endangered species that are legally killed be allowed into the United States?

We will conduct our own town hall style debate in which each of you will be assigned one of five roles. You will be responsible for writing a 2–3 paragraph position statement in which you defend your assigned position during the class debate. Your position statement should do the following:

- State your positions on the two questions stated above.
- Describe a series of reasons that support your position. These can be derived from the *Radiolab* podcast, the article, the WWF website, from additional sources, or from your own personal relevant experiences.

The class discussion will be run in a town-hall style in which every person will be given a chance to defend their position. The ethics and management issues of such hunts will be very important factors in such a decision. Hopefully, by the end of the meeting, you will have decided whether a rhino hunt was a sound management decision, and whether to allow for the import of animal parts acquired during such hunts.

#### **Positions**

American Hunter: You have hunted with your family since you were a child, and thus believe that hunting is an appropriate way to acquire meat and manage animal populations. You support the black rhino hunt and importation of the kill.

Namibian Professional Hunter: You are native to Namibia, and feed your family and make your living via hunting and leading tourists on hunting expeditions. You view black rhinos as large, potentially dangerous animals that need to be managed. You support the black rhino hunt and importation into the U.S.

American Activist: You are a hiker and environmentalist, and believe that every endangered species deserves protection. You do not support the black rhino hunt or importation.

African Activist: You are native to Africa, and believe that it is important to send a message that endangered species are valuable and worthy of protection. You do not support the black rhino hunt or importation.

Wildlife Biologist: You are strictly viewing the rhino issue from a biological perspective. Thus, you support removing an adult black rhino for management purposes. Students in this group can decide whether or not they support the killing by trophy hunters, or if they think the animals should be removed by wildlife managers.

## Part IV - Reflection

Researching the science and considering multiple opinions can often make us reconsider our own opinions. To put this activity into perspective, take some time to consider your own thought process. Write one or two paragraphs after completing the class discussion in which you address the following questions. Please write out your answer using complete sentences in paragraph form, *not* as numbered answers to the four questions.

#### Questions

- 1. What was your opinion about hunting large species prior to completing the activity? Did you have a different opinion about hunting endangered species?
- 2. Did your opinion change in any way, and if so, how?
- 3. What aspects of the activity were most influential?
- 4. Do you think it would be appropriate to use hunting as a management tool for other endangered species?

#### References

Adler, Simon. 2015. The rhino hunter. *Radiolab*. Sept 7. http://feeds.wnyc.org/~r/radiolab/~3/B3W-Nc51Hb0/ Emslie, R. and Brooks, M. 1999. African Rhino: Status Survey and Conservation Action Plan. IUCN/SSC African Rhino Specialist Group. http://www.rhinoresourcecenter.com/pdf\_files/117/1175863242.pdf

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IUCN 2015. The IUCN Red List of Threatened Species. Version 2015-3.

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