**Lesson Plan – Wolf Conservation in Idaho**

By – Jens Hegg

**Objectives**

By the end of this assignment students should have a grasp of:

* What is a stakeholder?
* How conservation must balance competing interests
* What does listing/delisting of a species mean for
  + Conservation
  + Protection from hunting
  + Livestock (if it is a predatory species)
  + The ecosystem
* The history of wolf reintroduction in Idaho/the West
* Scientific evidence for/against hunting of wolves
  + Building a fact-based argument
* Scientific writing
* Sourcing arguments with literature (primary or secondary)
* What is a primary/secondary source
  + How to evaluate the validity of sources

**Engagement Activity:**

Hearing on Wolf Management and listing/delisting by the Idaho Department of Fish and Game (Made up of the class). The hearing involves testimony by two interested stakeholders, a wolf conservation advocate (Teacher #1) and a rancher and part time guide affected by wolf predation (Teacher #2).

Additional stakeholders can be added to the hearing if you have enough people to play the parts. Ideally, look for people willing to play a character and make it fun and interesting. The more the participants know about the subject the more they can improvise during the hearing, big personalities and people willing to have fun are what make this hearing super engaging.

Activity: (Handouts and Assignment are at the end of this document)

During the “public hearing” students are asked to act as impartial, data driven, senior wildlife managers for Idaho Dept of Fish and Game. They must form an opinion based on the presented evidence. They must decide whether wolves should be managed through hunting and standard wildlife management techniques or as an endangered species. Their subsequent paper will be a scientific report submitted in favor of one management strategy or the other, which will be used by Idaho Department of Fish and Game, the U.S. Fish and Wildlife Service or the courts to determine the final strategy used. Students must take the public testimony they heard and flesh out their position using solid evidence.

The Catch (optional): Have each student state their opinion after the “testimony” of both sides and question period. Write them on the board. Then assign each person to research the opposing side of the argument (or split them up randomly if one side is not represented). This helps keep students from playing to their own preconceived notions by having to play devil’s advocate.

*This is a topic that can be difficult to research because there are lots of biased sources out there. This doesn’t mean it can’t be done. It’s a good opportunity to help students, one-on-one, to begin figuring out what it means for a source to be reliable and fact-based. Below are links to a couple of resources with helpful resources for deciphering good sources from false or biased ones.*

[*https://www.npr.org/2016/12/11/505154631/a-finders-guide-to-facts*](https://www.npr.org/2016/12/11/505154631/a-finders-guide-to-facts)

[*https://www.edutopia.org/blog/evaluating-quality-of-online-info-julie-coiro*](https://www.edutopia.org/blog/evaluating-quality-of-online-info-julie-coiro)

**Facts to help in conducting the “hearing” (Feel free to add additional information to flesh it out):**

**Conservation Advocate:**

* Wolves have made an historic comeback since their reintroduction and have surpassed our expactations. Idaho now has 835 wolves. This is 8 times the number we set as a recovery goal when reintroduction began. The states, however, do not have a clear and cooperative system for dealing with wolves. We cannot de-list the wolf until there is a clear management plan throughout their range or we risk allowing states that are hostile to wolf populations (Wyoming and to a lesser extent Idaho and Montana) to set management goals detrimental to wolf populations.

[**http://www.aphis.usda.gov/regulations/pdfs/nepa/idaho\_wolf\_ea.pdf**](http://www.aphis.usda.gov/regulations/pdfs/nepa/idaho_wolf_ea.pdf)

* Wolves are a keystone predator in the ecosystem which act to balance the predator prey relationship, creating a healthy ecosystem. Healthy ecosystems are more stable, able to adapt more readily to changing environmental conditions (such as climate change) and are less prone to wild population swings. This benefits hunters with stable elk and deer herds. It also will conserve our wildlife in a healthy state for future generations to enjoy.
* Evidence from Yellowstone indicates that lower trophic level vertebrates have thrived due to wolf reintroduction and the ecosystem is much more stable: Prior to wolf reintroduction Elk herds were at numbers approaching carrying capacity and had decimated the willow (and aspen and cottonwood as well) population within the park. This caused a botton-up trophic cascade.

Lack of willow created a shortage of food for beaver during the critical winter months, leading to very low beaver populations. Without beaver there was less damming of streams, fewer wetlands, and fewer rearing habitats for Yellowstone cutthroat trout. Wolves have forced elk herds away from constant foraging in open wetland areas during the winter (Where elk are easily trapped in deep snow) which has allowed willow populations to increase. This has meant a corresponding increase in wetland habitat and rearing habitat for cutthroat.

Similarly, Wolves account for the majority of elk deaths. Since wolf kills occur more regularly (compared to winter die offs which are seasonal) scavengers have benefitted and species from magpies to grizzly bears have increased in population.

Wolves, as high trophic level predators, create a top-down pressure which evens out the bottom up pressure of Elk herds on willow stands. This evens out the natural swings in populations and allow the ecosystem to flourish rather than for one species to dominate. This creates more sustainable wildlife populations.

<http://www.yellowstonepark.com/MoreToKnow/ShowNewsDetails.aspx?newsid=179>

<http://www.truth-out.org/the-big-bad-wolf-makes-good-the-yellowstone-success-story-and-those-who-want-kill-it63644>

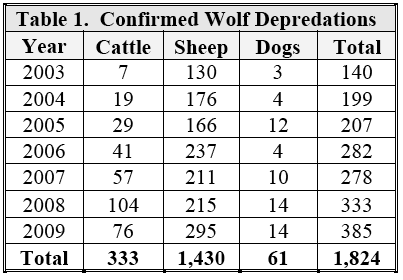
(Also many primary sources available in the literature)

* Wolves kill very few cattle or sheep in comparison to other causes of death for range animals. In 2009 wolves killed 76 cattle and 295 sheep in Idaho.

This represents a tiny fraction of the cattle killed by weather, disease, birthing, or other more common problems. Vultures, coyotes, domestic dogs and theft accounted for more cattle losses than wolves. Wolves kill only 0.11% of the cattle in states with active wolf populations.

Sheep are more vulnerable but still, coyotes account for 22 times more sheep deaths than any other cause. Wolves account for 2.5% of the sheep deaths in states with wolves.

Table of confirmed wolf depredations in Idaho

http://www.aphis.usda.gov/regulations/pdfs/nepa/idaho\_wolf\_ea.pdf

All other data comes from:

<http://www.defenders.org/programs_and_policy/wildlife_conservation/solutions/wolf_compensation_trust/wolf_predation_and_livestock_losses.php> which is summarized from:

U.S. Department of Agriculture, National Agricultural Statistics Service (NASS). 2006. [Cattle Death Loss](http://www.peer.org/docs/doj/06_9_5_nass_report.pdf).

U.S. Department of Agriculture, National Agricultural Statistics Service (NASS). 2006. [Sheep and Goats Death Loss](http://usda.mannlib.cornell.edu/reports/nassr/livestock/pgg-bbsg/predan05.pdf).

* Elk populations in the Lolo management zone are declining mostly due to long term habitat loss, fragmentation, and natural successional stages. The area burned heavily in the 1950’s, creating large areas of grass and shrub land which was prime elk habitat. This increased the carrying capacity and led to abnormally high populations. As these forests have begun their succession grass and shrub habitat has decreased and the carrying capacity has decreased. At the same time Dworshak dam flooded much of the prime summer habitat and cut off migration routes across the North Fork Clearwater Valley, fragmenting the herd. A combination of human induced and natural changes to their habitat have meant a continuous decrease in carrying capacity. This habitat will never support the herds of the past whether wolves are there or not.

http://www.nww.usace.army.mil/dworshak/reports/dm15/default.htm

**Rancher/Guide**

* Wolves have met and exceeded the numbers the state wanted when they were reintroduced. The packs are stable and growing. There is no need to continue to protect them stringently under the Endangered Species act. They are killing cattle and sheep, causing significant economic losses. They should be controlled just like any other predator that kills domestic animals. There should be a hunting season and ranchers should be able to harass or shoot problem wolves without punishment

**http://www.aphis.usda.gov/regulations/pdfs/nepa/idaho\_wolf\_ea.pdf**

* The Lolo and Sawtooth elk herds are declining in numbers due to heavy predation by wolves. Wolves were found by IDF&G to be the primary cause of Elk death in these zones and in the Lolo zone elk cow mortality is below the numbers which will sustain a stable population. Wolves are too numerous and need to be controlled. Those who point to habitat loss are only calling out part of the problem. Elk herds would not be declining in the Sawtooth and Lolo districts if predation by wolves was at a lower level. As it is wolves lay insult on injury and jeopardize millions in revenue for a depressed rural economy that comes from hunting. We can’t let the jewel of Idaho elk hunting turn to coal simply because we feel wolves should be unregulated.

<http://fishandgame.idaho.gov/cms/news/fg_news/10/aug.pdf>

* Wolves may be a small percentage of the total number of cattle and sheep losses, but losses due to disease, and weather are unavoidable and planned into our business plans. Ranchers operate on slim margins, we must compete with cheaper alternatives worldwide and any extra cost means less profit for our beef, lamb or wool at auction. Wolves are the straw that broke the camels back.

Ranchers have always dealt with the weather and disease, but we can’t make up for losses to wolves, it is simply too much expense and the government provides too little ability to get payment. Confirming a wolf kill is too difficult to prove, and the payment is too little too late. Not being able to easily kill problem wolves without permission is onerous since often they are gone before we can solve the problem.

Further, the same study showing an overall average of 2.5% of sheep losses to wolves also shows that Idaho has the highest number of sheep lost to wolves. Idaho has 5.1% of it’s sheep killed by wolves. Neglecting to mention this fact is criminal. While other states may not have high wolf predation, Idaho is straining under the weight of wolf predation on sheep.

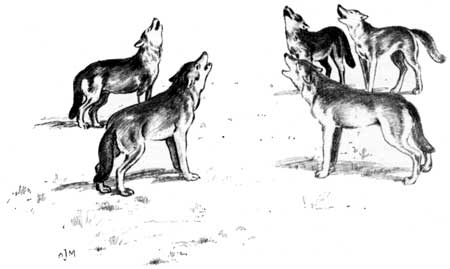
Also, wolf predation is not evenly distributed across the state. In areas where wolves winter cattle ranches see more predation as wolves turn to easy prey. While many ranchers don’t have a problem it is a huge problem for some.

* All other large predators are managed in conjunction with the management goals of ungulates. For example, in the Lolo management zone hunting limits for bear and mountain lion have been increased in order to lower predation. Wolves, as an endangered species, are exempt from this however. Why should wolves get a free ride when they are the largest source of elk death in the management zone.
* Wolves may indeed be an important part of the ecosystem, however they need to be managed just like other large predators. They are a stable, increasing population that is affecting the food chain. We must manage them in order to maintain our hunting and ranching economy in the State of Idaho.

**Wolf Management Paper Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Wildlife Management**

**Idaho Grey Wolf Controversy**

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Few endangered species have had as successful a comeback as the grey wolf. Even fewer have created so much controversy after their return to their native habitat.

**Your assignment** is to research the reintroduction of wolves into Idaho and submit a scientific report which cites evidence to support a management decision for, or against, managing Idaho wolves as an Endangered Species.

The viewpoint you will argue for was assigned in class after the Idaho State Senate Hearing exercise. Circle it below:

*For Endangered Species Status Protection of Wolves*

*For State Management and Hunting Season of Wolves*

**Your role** is to act as a senior wildlife manager for Idaho Fish and Game. Your report will be submitted to the Idaho Legislature as well as United States Fish and Wildlife Service (The agency that oversees the endangered species act). Your recommendations will be taken into account as new regulations and laws are created to manage wolves in the United States and in Idaho. The guidelines for the report are on the next page.

***Staple to your assignment, this is your grading rubric***

**Draft Report for ESA Listing/Delisting of Grey Wolves**

**Endangered Species Act of 1973**

([7 U.S.C.](http://en.wikipedia.org/wiki/Title_7_of_the_United_States_Code) [§ 136](http://www.law.cornell.edu/uscode/7/136.html), [16 U.S.C.](http://en.wikipedia.org/wiki/Title_16_of_the_United_States_Code) § 1531)

**Required Elements:**

2 page minimum (although you may need more space to fully address the topic at an “A” level)

12 point Times New Roman font; standard margins; single spaced [15pts]

Content Level and detail [100pts]

On Task Behavior [25pts/day]

At least 8 citations in a consistent format. [lack of citation -5 points] ***Plagiarism will not be tolerated an results in a zero for the assignment. Use quotes or a citation if it isn’t completely your own words or ideas!! If you aren’t sure ask.***

Spelling/Punctuation/Grammar [10pts]

Organization [25pts] :

Introduction – Summarize issue and introduce

History – Describe history of wolf extirpation/reintroduction and current state of wolf populations in the state and endangered species act status.

Scientific Evidence – Build your case with evidence that supports your position from internet sources.

1) Evidence based on wolf ecology, trophic level, and habitat as well as;

2) Evidence of the ecology of their prey and any species that may be impacted incidentally due to trophic interactions (i.e. – beaver and willow in Yellowstone example)

3) Evidence of the effect on humans of the management strategy you recommend.

Management Recommendations – Bring your evidence together into one, solid recommendation for wolf management.

Conclusion – Recap the paper and bring everything together into a powerful conclusion that argues for your conclusions to be adopted by lawmakers and policy makers at higher levels of government.

Total Grade\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Some Sources to Get You Started**

***You will need other sources to excel at this assignment, however. Look for government reports, scientific literature on Google Scholar, or fact based secondary sources similar to the Defenders of Wildlife page below.***

**U.S. Fish and Wildlife Rocky Mountain Wolf Recovery 2009 Interagency Annual Report**

<http://www.fws.gov/mountainprairie/species/mammals/wolf/annualrpt09/index.html>

**Defenders Of Wildlife - Wolf Predation and Livestock Losses**

(Great Summary of Wolf Predation Statistics from USDA reports. Also links to original data so you can check if their interpretation is biased. Do you think it is?)

<http://www.defenders.org/programs_and_policy/wildlife_conservation/solutions/wolf_compensation_trust/wolf_predation_and_livestock_losses.php>

**Nature – In the Valley of the Wolves**

h<ttp://www.pbs.org/wnet/nature/episodes/in-the-valley-of-the-w>olves/reintroduction-of-the-wolves/213/

***This is a sensitive issue and there are lots of wild, extreme, opinions that aren’t based on fact. This link is a great example. He starts out with fact, then veers into wild speculation about wolf subspecies and diseases. Beware if the writer is using extremely strong, biased or angry language without citing good sources.***

**Gene Eastman - Guest Editorial: Decline of elk and elk depredation by wolves** http://www.clearwatertribune.com/Weekly%20Pages/04-01-10/April0110Eastman.htm